small tools and ACCESSORIES

including Master Copy Type

GORTON

2720-A

GEORGE GORTON MACHINE CO.

RACINE, WISCONSIN, U.S.A.

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GEORGE GORTON MACHINE CO. • RACINE, WISCONSIN, U.S.A.

CUTTERS · ARBORS · SMALL TOOLS · ROTARY TABLES

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SERVICE FACTS

HOW TO USE THIS CATALOG

Facing this page is a convenient cross index of everything contained in this catalog. When ordering, be sure to give catalog number and name of tool or accessory. All catalog numbers are printed in bold face for better legibility.

24-hour service is given on over 90% of all orders received, inasmuch as it is our policy to stock all items listed except special items or where special orders are involved.

GORTON SERVICE

Attachments, accessories, cutters, arbors, and other small tools used in the tool room or on the production line are fully as important as the machines with which they are used. It is for this reason that Gorton has constantly developed and enlarged its line of small tools and accessories for more than sixty years.

In this catalog you will find the result of this long experience in the form of convenient assortments and sets, handy packaging as well as improved small tool and accessory design. Good tools deserve good care and handling and experience has shown that shop men, from operators to superintendents, approve our efforts to offer the best, always packaged for safe shipment.

PRICES

Prices of all items listed in this catalog are contained in a separate small tools and accessories Price List No. 2656, enclosed. All prices are F.O.B. factory in Racine and are subject to change without notice. All applicable taxes are payable by the buyer in addition to the price.

Minimum Order, $3.00.

"SPECIAL" ORDERS

Any items not appearing in this catalog will be considered "special." Gorton engineers will modify any of our standard units to meet your requirements if necessary at additional cost. They will be glad to work with you on special tools, fixturing, masters, copy, indexing units, tracing styles, etc. Submit your requirements either by letter, blueprints, or submit parts to be machined. From this we can quote on tooling requirements together with production estimates.

We are prepared to offer full cooperation in special machine design also — manual or automatic tracer control — spindle speeds up to 45,000 R.P.M. — 2 or 3 dimensional reproduction either at 1 to 1 or at various reduction ratios — single or multiple spindle machines for work of any shape or size. The word "special" should not be considered to mean a high priced item. In many cases, we can draw on our experience with similar work in the past and/or modify a standard unit, thereby saving time and money for you. Quotes will be given promptly on any of your requirements.

SPECIAL CUTTERS

Gorton maintains engineering and manufacturing facilities to be of service to you with respect to special cutters. Experience has been accumulated over a period of many years on end milling, profiling, and contour work which is available to you. Send us details of your particular requirements and we will be glad to study your problem and give you our recommendations. Firm quotations will be made at your request. This applies to high speed steel tools as well as carbide. Take advantage of this service — it can save you time and money.

CUTTER RESHARPENING

Here again is a service which offers savings to you. Cutter resharpening orders are processed immediately upon receipt. A group of expert grinders will recondition your cutters to your specifications and, if the material to be cut is specified, the proper grind will be applied, assuring you of good cutting action and long cutting edge life. This includes cutters of stepped design, single or multiple flutes, square nose, ball nose or conical, .015" to 1" dia. All work is done at nominal cost.

CANCELLATIONS

If special order work is undertaken by the George Gorton Machine Co., the right is reserved to impose cancellation charges up to the full price of such "special" work based on prices in force at the time cancellation notice is received.

RETURNS

The return of any item in this catalog for credit must have our prior written permission. Transportation must be prepaid.

SHIPMENTS

All shipments are made by parcel post unless size or weight exceeds U. S. Postal standards or unless you have instructed us otherwise. Shipments which are too heavy or bulky for parcel post are shipped by express or truck at our discretion unless otherwise instructed.

DAMAGED OR LOST SHIPMENTS

Our responsibility ends when shipment is delivered to the post office or other responsible carrier, at which time title to the shipment is transferred to the buyer. In case of shipment becoming lost or arriving in a damaged condition, get in touch with the transportation company at once and file your claim. We will do all we can to be of help in cases like these, but we cannot be held responsible for the outcome.

EMERGENCY SERVICE

If you require faster than ordinary mail service, telegraph or telephone Racine, Wisconsin, MElrose 4-6644, and place your order and give us instructions on how to ship.

GORTON FILM

"Tracer Control in Action" is the name of a Gorton 16 mm. full-color motion picture film which has an interesting narrative on the sound track. It runs for approximately 36 minutes and covers manual and power-driven pantograph and duplicator applications — from short runs to high production. If interested in viewing this film, write factory for details.

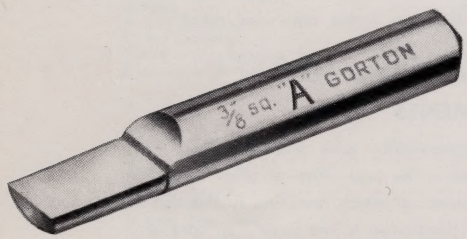
OTHER CATALOGS

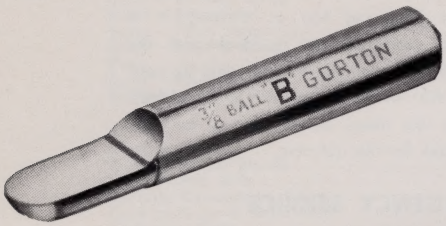
On page 51 you will find a partial description of some of the standard and special machines designed and built by Gorton. Be sure to refer to the back cover which illustrates other Gorton catalogs and bulletins available to you without obligation upon letterhead request.

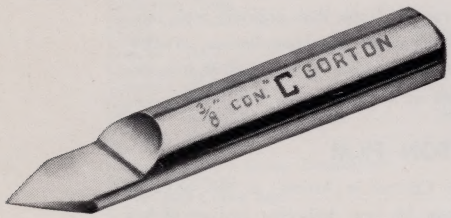
PATENT NOTICE

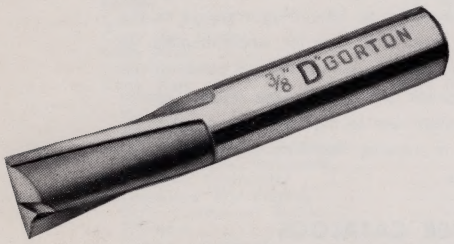
The attachments, accessories, and small tools illustrated and described in this catalog are protected by issued and pending United States and foreign patents.

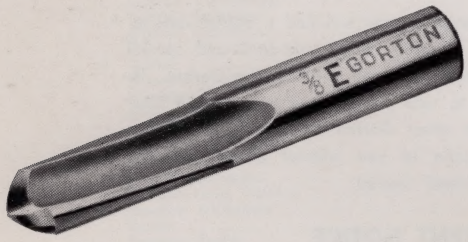
IMPORTANT. The George Gorton Machine Co. reserves the right to improve, change, modify, or discontinue any Gorton attachment, accessory, or small tool illustrated or described herein without obligation to make such improvement, change, or modification on any such item previously sold or on order.

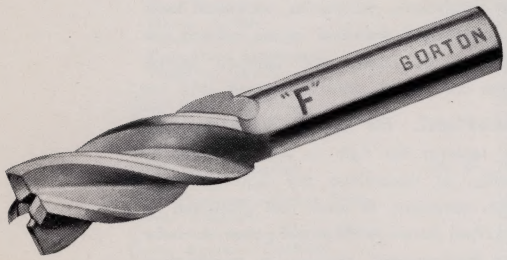












Use our cutter sharpening and resharpening service for all types of cutters shown on page 4 through page 11.

GORTON SUPER SPEED CUTTERS . . .

FOR DIE AND MOLD WORK

On all high speed spindle milling machines and milling heads

These GORTON *SUPER - SPEED* End Mills are especially designed for use on GORTON Super-Speed Millers, Duplicators, and Pantographs; Kellers, Pratt & Whitney Die Sinkers and Profilers; Kearney & Trecker Rotary Die Millers; Reed-Prentice and Taylor-Fenn Vertical Mills; and Bridgeport, Eklind, Frae, Tree, and Dalrae Milling Heads. We recommend their use because of greater strength, higher speeds without burning, ease of regrinding to other shapes, easily resharpened, accurate to —.0005″. These advantages, plus low initial cost and small breakage loss, result in savings of **50%** to **75%** over conventional cutter types. In ordering, give the number and add letter designating style desired.

A Square Nose Cat. No.	B Round Nose Cat. No.	C *Conical Nose Cat. No.	Dia.	Length of Cut	Whole Length
11817	11826	11835	1/10″	1/8″	1-1/2″
11818	11827	11836	1/8″	3/16″	1-1/2″
11819	11828	11837	5/32″	1/4″	1-3/4″
11820	11829	11838	3/16″	9/16″	2″
11821	11830	11839	1/4″	9/16″	2-1/4″
11822	11831	11840	5/16″	9/16″	2-3/8″
11823	11832	11841	3/8″	9/16″	2-1/2″
11824	11833	11842	7/16″	9/16″	2-1/2″
11825	11834	11843	1/2″	9/16″	2-1/2″

* Unless otherwise specified, conical cutters will be ground to 60° included angle with proper chip clearance. Any of above ground to special requirements at extra cost; give full information.

TWO FLUTE MILLS

GORTON *SUPER - SPEED* **2**-Flute Short Type Medium Spiral End Mills provide great strength with smooth bottom cut. They are good for roughing, slotting, etc., and are preferred for some types of die and mold work. Experience shows that longer lengths than those listed cause excessive breakage. In ordering, give number and add letter designating style desired.

D Square Nose Cat. No.	E Round Nose Cat. No.	Shank and Cutter Dia.	Length of Cut	Whole Length
K-1639	K-1651	1/8″	5/8″	1-1/4″
K-1640	K-1652	5/32″	5/8″	1-3/8″
K-1641	K-1653	3/16″	5/8″	1-1/2″
K-1642	K-1654	1/4″	1″	1-7/8″
K-1643	K-1655	5/16″	1″	1-7/8″
K-1644	K-1656	3/8″	1″	2″
K-1645	K-1657	7/16″	1-1/8″	2-1/8″
K-1646	K-1658	1/2″	1-1/8″	2-1/8″
K-1647	K-1659	5/8″	1-1/8″	2-3/8″
K-1648	K-1660	3/4″	1-1/2″	2-7/8″
K-1649	K-1661	7/8″	1-3/4″	3-3/8″
K-1650	K-1662	1″	2″	3-3/4″

All sizes are right-hand spiral right-hand cut.

FOUR FLUTE MILLS

This **4**-Flute Fast Spiral Mill is unexcelled for side milling (profiling contours, etc.). The fast spiral provides continuous tooth contact, reducing chatter and breakage. Faster feeds are possible because the hollow ground teeth eject chips without clogging. Right-hand spiral carries chips up from work, producing very smooth bottom cut. Shanks on all Style "F" cutters have flats for set screws. In ordering, give number and add letter designating style desired.

F Square Nose Cat. No.	Cutter Dia.	Shank Dia.	Length of Cut	Whole Length
K-1663	1/8″	3/8″	3/8″	2-5/16″
K-1664	5/32″	3/8″	3/8″	2-5/16″
K-1665	3/16″	3/8″	1/2″	2-3/8″
K-1666	1/4″	3/8″	5/8″	2-1/2″
K-1667	5/16″	3/8″	3/4″	2-1/2″
K-1668	3/8″	3/8″	3/4″	2-1/2″
K-1669	7/16″	3/8″	1″	2-11/16″
K-1670	1/2″	3/8″	1-1/4″	2-11/16″
K-1671	5/8″	5/8″	1-5/8″	3-3/4″
K-1672	3/4″	5/8″	1-5/8″	3-3/4″
K-1673	7/8″	7/8″	1-7/8″	4-1/8″
K-1674	1″	1″	2″	4-1/2″

Style "F" in sizes 5/8″ dia. or larger can be supplied with 1/2″ dia. shank at extra cost. All sizes are right-hand spiral right-hand cut.

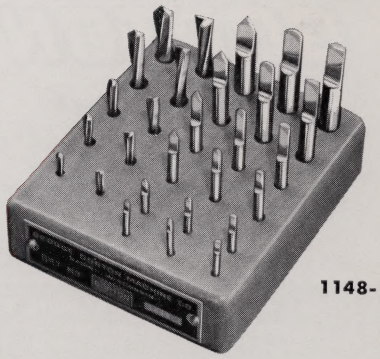
GEORGE GORTON MACHINE CO. • RACINE, WISCONSIN, U.S.A.

. . . selected HIGH-SPEED STEEL

CUTTER SETS

For Three-Dimensional Pantographs

These cutter sets are similar to the popular **709-1** set (shown below) excepting they are intended for use with three-dimensional pantograph machines having 5/16″ and 3/8″ diameter collet type spindles. Each set contains an assortment of cutters selected from our standard line. Equip your three-dimensional pantograph machines with complete cutter sets and avoid costly delay by having the proper cutter for the job to be done. Each set is furnished with a handy wooden rack.



1148-1

1148-1. Set for P1-3 Pantograph Machine, consisting of 28 cutters, ranging in size from 1/10″ to 5/16″ diameter, including single and two-flute, square, conical, and ball nose types, complete with rack as shown.

1147-1

1147-1. Set for P2-3 and 3-L Pantograph Machines, consisting of 39 straight shank high speed steel cutters. Included are single, two and four-fluted cutters with square, conical, and ball noses. Sizes range from 1/10″ to 3/8″ diameter, complete with rack as shown.

For use with all Gorton Duplicators

709-1

709-1 set. Time and money can be saved on die and mold work by purchasing a complete assortment of end mills in exactly the same sizes and styles as pictured at right and also as listed on Page 4, up to and including those of 1/2″ diameter. This set provides economical means of testing out a variety of selected types of die and mold cutters, to determine which may be best for the particular type of work being done. The 51 end mills included in the set are all straight shank, high speed steel. The assortment comes complete with a handy wooden block (shown) which is of added convenience to the operator. Avoid the costly delay of not having the proper end mill for the job at hand by ordering this set now.

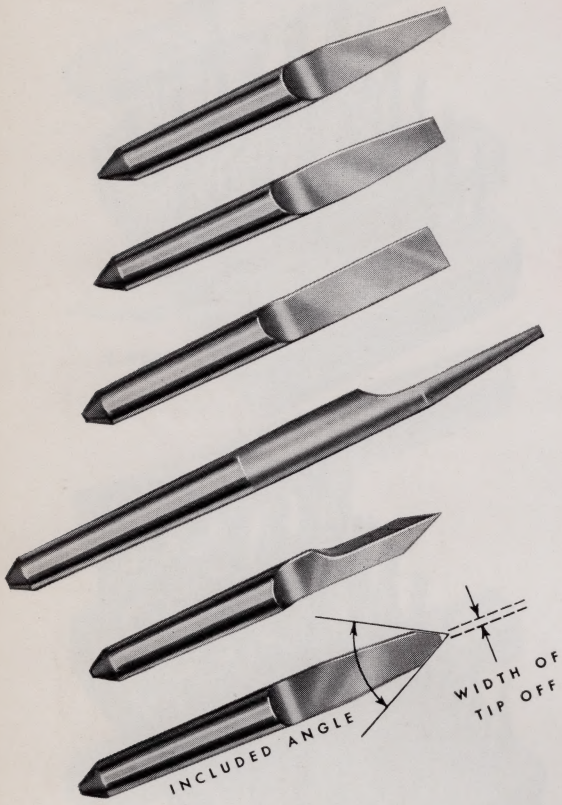
PACKAGED GORTON CUTTERS

(Envelope of 6 — One Size)

Identical with those shown on opposite page. When ordering, be sure to give catalog number and letter denoting style required.

SIZE	SINGLE FLUTE			TWO FLUTE		FOUR FLUTE
	A	B	C	D	E	F
	Catalog Numbers			Catalog Numbers		Cat. Numbers
1/10″	11817	11826	11835			
1/8″	11818	11827	11836	K-1639	K-1651	K-1663
5/32″	11819	11828	11837	K-1640	K-1652	K-1664
3/16″	11820	11829	11838	K-1641	K-1653	K-1665
1/4″	11821	11830	11839	K-1642	K-1654	K-1666
5/16″	11822	11831	11840	K-1643	K-1655	K-1667
3/8″	11823	11832	11841	K-1644	K-1656	K-1668
7/16″	11824	11833	11842	K-1645	K-1657	K-1669
1/2″	11825	11834	11843	K-1646	K-1658	K-1670

GORTON TAPER SHANK ENGRAVING CUTTERS . . .



(Patent 1,935,555)

PACKAGED CUTTERS — 6 Cutters to an Envelope

Durable and Strong . . . Exceptional Performance . . . Low Cost per Grind. The long flute assures maximum life and its uniform section insures even temperature conditions during heat treatment, reducing the risk of cracks and flaws.

Because there is no shoulder, cutter enters spindle far enough to insure a tight fit even in badly worn spindle. Flats are accurately ground to center, with approximately .003″ of stock left above center to insure any amount of clearance desired; taper shank held to limits of ±.0005″. Points are left blank for grinding to any desired shape. Furnished in sealed packages; six cutters to a package, one size only.

For grinding Gorton taper shank cutters in collet type tool-holders, use adapter 6925. See Page 13.

Cat. No. Sharpened	Cat. No. Unsharpened	6 Cutters Size No.	Dia. at Points	Length
12788	12680	1	.100″	1-29/32″
12789	12681	2	.150″	1-29/32″
12790	12682	3	.240″	1-29/32″

EXTRA LONG PACKAGED CUTTERS

These cutters are often required for work in deeper cavities. Overall length is 2-15/16″ while the flutes are the same length as those listed above.

Cat. No. Sharpened	Cat. No. Unsharpened	6 Cutters Size No.	Dia. at Points	Length
13122	13121	1	.100″	2-15/16″
13123	12640	3	.240″	2-15/16″

QUARTER ROUND TAPER SHANK CUTTERS

These are sometimes referred to as 90-degree cutters. Selected high speed steel, packed six per envelope.

12791, Sharpened cutter package. **12689,** Unsharpened package.

SHARPENED GORTON TAPER SHANK CUTTERS

Any of the above Gorton Taper Shank Cutters can be furnished with points sharpened and having proper chip clearance. In ordering, be sure to specify width of tip, if any, also included angle desired. When no angle is specified, cutters will be ground to conical point of 60 degrees included angle, with proper chip clearance. State material to be cut. See price list.

ENGRAVERS' CUTTER SETS

710-1. This set consists of a complete assortment of cutters and small accessories for use with GORTON Pantograph Machines having GORTON Taper Shank Spindles. It is highly useful in all engraving work as well as for small work of various kinds.

This set consists of six each of GORTON Taper Shank Cutters, sizes 1, 2, and 3 in packages; 18 cutters in all. Twelve each 1/10″ and 1/8″ diameter high speed steel cutter blanks; 24 blanks in all. One 21-1 Midget Chuck with GORTON Taper Shank, one 21-2 Midget Chuck with GORTON Taper Shank, and one cutter wrench 8489.

799-1. This set is the same as above but with 21-3 and 21-4 Midget Chucks having 3/8″ straight shanks to fit any collet. Specially useful with all GORTON Duplicators, 3-Z, P2-3, and P3-2 Pantograph Machines and all high speed spindle machines and heads listed at top of Page 4. Also includes Collet Adapter Bushing 6141 with GORTON Taper Hole and 3/8″ O.D.

801-1. Same as Set 799-1, except Midget Chucks 21-5 and 21-6 and taper collet bushing have 5/16″ shanks. For 3-F, 3-U, P1-2, and P1-3 Pantograph Machines having collet type spindle.

CUTTER WRENCH 8489 is used with all GORTON Taper Shank Cutters. It has opening .27″ and 1/8″ for these cutters as well as for 21-1 and 21-2 Midget Chucks and Diamond Point Cutters.

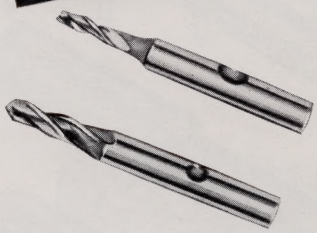
. . . SINGLE FLUTE H.S.S. *(For Gorton Pantograph Machines)*

GORTON MINIATURE END MILLS

Gorton Miniature End Mills are made from selected high-speed steel properly heat-treated before grinding. They have unusual strength, sharpness, and durability and will do fine, accurate work in all operations such as milling, engraving, routing, and profiling. Miniature end mills are supplied in envelopes of 6 mills all of same style and size. See table below. Order by number in lefthand columns.

SQUARE NOSE MINIATURE END MILLS

Cat. No. 2-Flute	Cat. No. 3-Flute	Cat. No. 4-Flute	Cutter Dia.	Shank Dia.	Flute Length	Total Length
K-5761			1/32"	1/8"	3/64"	1-3/64"
K-5762			1/16"	1/8"	3/32"	1-5/32"
K-5763	K-5767	K-5771	3/32"	1/8"	5/32"	1-1/4"
K-5764	K-5768	K-5772	1/8"	1/8"	3/16"	1-11/32"
K-5765	K-5769	K-5773	5/32"	3/16"	7/32"	1-7/16"
K-5766	K-5770	K-5774	3/16"	3/16"	1/4"	1-9/16"



GORTON MINIATURE BALL NOSE MILLS

These round nose miniatures are the same high quality high-speed steel as the square nose style described above. Furnished in envelopes of 6 cutters all of the same style and size. Order by number in lefthand columns.

BALL NOSE STYLE

Cat. No. 2-Flute	Cat. No. 3-Flute	Cutter Dia.	Shank Dia.	Flute Length	Total Length
K-5775		1/16"	1/8"	3/32"	1-5/32"
K-5776	K-5782	3/32"	1/8"	5/32"	1-1/4"
K-5777	K-5783	1/8"	1/8"	3/16"	1-11/32"
K-5780	K-5784	5/32"	3/16"	7/32"	1-7/16"
K-5781	K-5785	3/16"	3/16"	1/4"	1-9/16"

SQUARE NOSE CUTTERS

Made of selected high-speed steel and sharpened at both ends. 1/10" or 1/8" diameter shanks only. Order by catalog number in table below. Packed 6 to an envelope only. Will be supplied "assorted" if desired. For sizes other than those listed, add 50%.

All cutters have square noses.

Cat. No.	Point Dia.	Shank Dia.	Cat. No.	Point Dia.	Shank Dia.
11949	.015"	1/10"	12770	.015"	1/8"
11950	.020"	1/10"	12771	.020"	1/8"
11951	.025"	1/10"	12772	.025"	1/8"
11952	.030"	1/10"	12773	.030"	1/8"
11954	.040"	1/10"	12775	.040"	1/8"
11956	.050"	1/10"	12777	.050"	1/8"
11958	.060"	1/10"	12779	.060"	1/8"
11960	.070"	1/10"	12781	.070"	1/8"
11962	.080"	1/10"	12783	.080"	1/8"
11964	.090"	1/10"	12785	.090"	1/8"
11966	.100"	1/10"	12787	.100"	1/8"

DIAMOND POINT CUTTERS WITH GORTON TAPER SHANKS

9968 for marking hardened steel, glass, etc. Has standard GORTON Taper Shank. Diamond has six flats; point is 120 degrees included angle. Will take a cut .003" to .005" deep in hardened steel.

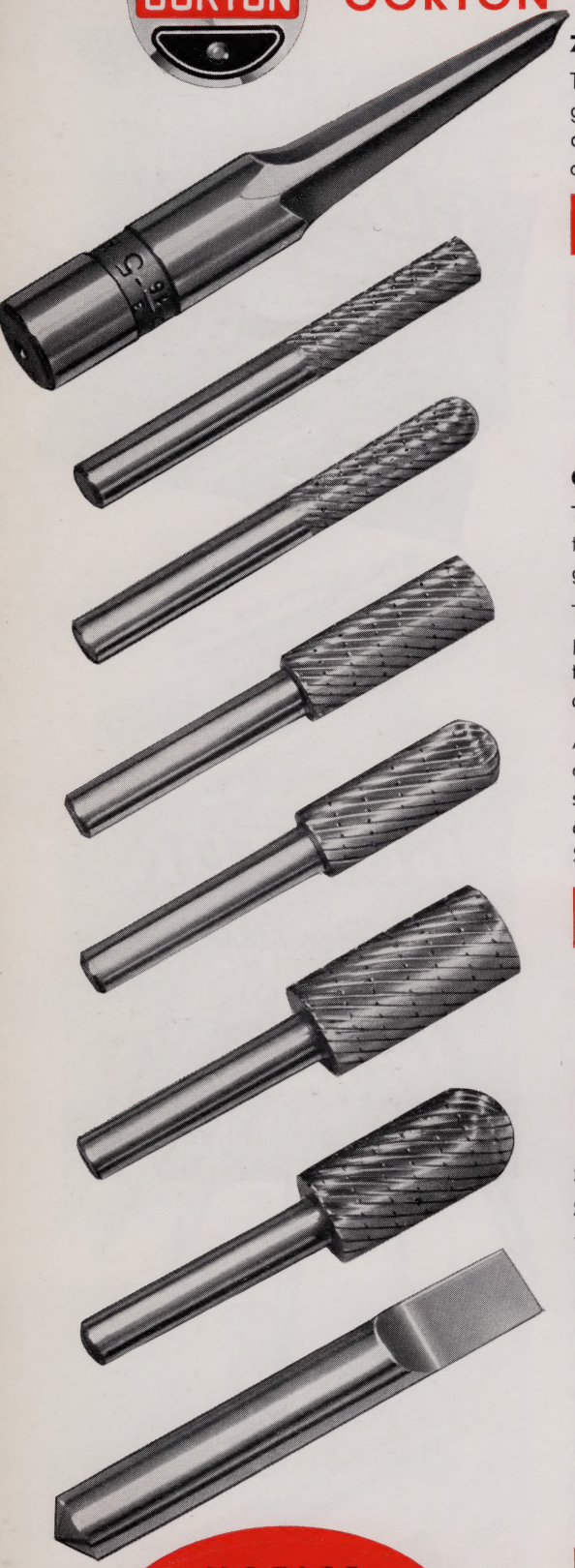
K-3287 — same as 9968 above but with 5/16" diameter straight shank.

11597 — same size and style as 9968 but with longer, more delicate point. Diamond has three flats. Point is 90 degrees included angle. Specially suited for bakelite and fibrous materials. Must NOT be used on steel.

K-3288 — same as 11597 above but with 5/16" diameter straight shank.

Use our cutter sharpening and resharpening service
for all types of cutters shown on Page 4 through Page 11.

GORTON HIGHEST QUALITY CUTTING TOOLS . .



7° DIE SINKING CUTTERS (WITH SPIRAL FLUTES)

The use of these die sinking cutters eliminates the need of grinding the taper on good end mills. These cutters are furnished with right-hand cut only. Their design makes them efficient either as roughing or finishing tools for die sinking or mold making.

Cat. No. Sq. Nose	Cat. No. Ball Nose	Dia. of Small End	Flute Length	Shank Dia.	Overall Length
K-6012	K-6018	3/32″	1-1/2″	3/8″	3-1/4″
K-6013	K-6019	1/8″	1-1/2″	3/8″	3-1/4″
K-6014	K-6020	3/16″	2″	1/2″	3-1/2″
K-6015	K-6021	1/4″	2-1/2″	5/8″	4-1/4″
K-6016	K-6022	5/16″	3″	3/4″	5″
K-6017	K-6023	3/8″	3-1/2″	3/4″	6″

GROUND TOOTH MILLS H.S.S.

These mills are ground from the solid after hardening, not file cut. This makes them just as true and accurate as end mills. A chip breaker is provided in the grind to prevent clogging of the flutes.

These mills are especially useful for finishing cuts with Gorton duplicators or pantograph machines when working from stone composition models. The multiple teeth cutting with continuous tooth contact results in less pressure being applied against the master with the tracer, thus reducing the wear on both.

Although especially adapted to smooth finishing of non-ferrous materials such as cast iron mold and pattern work, they are also useful for profiling and finishing steel dies and molds. All tools have 1/4″ dia. shanks and measure 2-1/4″ overall. Available in both square and ball nose. Square nose tools are end cutting. Solid carbide tools in the same shapes are available. See page 11.

Square Nose	Ball Nose	Cutter Dia.	Length of Cut	Shank Dia.
K-1723	K-1717	1/8″	1/2″	1/4″
K-1724	K-1718	3/16″	1/2″	1/4″
K-1725	K-1719	1/4″	1″	1/4″
K-1726	K-1720	5/16″	1″	1/4″
K-1727	K-1721	3/8″	1″	1/4″
K-1728	K-1722	1/2″	1″	1/4″

SINGLE FLUTE CUTTER BLANKS H.S.S.

Sold in Packages of 6 Only

These cutter blanks of selected high speed steel with O.D. ground to + .0000″, — .0002″ offer several advantages — assurance of minimum runout — flats ground to the proper height above center, leaving only the end to be ground to the desired shape required — flute lengths are proportioned to the diameters to assure maximum strength as well as sufficient length for regrinding. This is the most economical way to buy cutting tools.

Also available are cobalt high speed steel cutter blanks for those tough cutting jobs where heavy cutting, shock, and excessive heat are encountered. Many users' experience shows that this steel retains its cutting edge and has exceptionally long life. Priced slightly higher.

Cobalt Cat. No.	H.S.S. Cat. No.	Blank Dia.	Flute Length	Overall Length
K-6024	K-1624	3/16″	9/16″	2″
K-6025	K-1625	1/4″	9/16″	2-1/4″
K-6026	K-1626	5/16″	9/16″	2-3/8″
K-6027	K-1627	3/8″	9/16″	2-1/2″
K-6028	K-1628	7/16″	9/16″	2-1/2″
K-6029	K-1629	1/2″	9/16″	2-1/2″

NOTICE

Gorton design and manufacturing facilities for special cutters are available to you. Use our prompt and reasonable regrinding service to save money.

. . . FOR PRECISION WORK

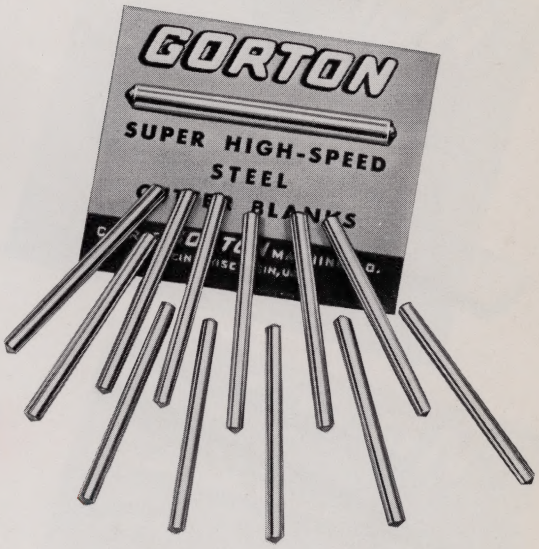
HARDENED CUTTER BLANKS

Hardened cutter blanks, both in short and extra long blanks, are very useful for a multitude of different applications. The two smallest diameters .100 "and .125" in the short lengths are ideally suited for use with Gorton midget chucks shown on page 14. Their use is most economical on small, delicate work and can easily be resharpened to any desired shape.

For work in deep cavities, the long hardened cutter blanks are indispensable. By grinding notches these blanks can be broken off to any desired length.

Because of their accuracy and hardness, these blanks find uses as reamers, drills, cutters, knockout pins, punches, gages, dowel pins, rollers.

Cobalt high speed steel blanks are available in all sizes; for use where conditions require a cutting tool to withstand heavy loads, shock, and excessive heat.



SHORT LENGTHS — Sold in Packages of 12 Only

Cobalt Cat. No.	H.S.S. Cat. No.	Blank Dia.	Length
K-6031	K-1621	1/10"	1-1/2"
K-6032	K-1622	1/8"	1-1/2"
K-6033	K-1623	5/32"	1-3/4"
K-6034	K-1700	3/16"	1-3/4"

4" LONG BLANKS — Sold in Packages of 6 Only

Cobalt Cat. No.	H.S.S. Cat. No.	Blank Dia.	Length
K-6035	K-1701	1/10"	4"
K-6036	K-1702	1/8"	4"
K-6037	K-1703	5/32"	4"
K-6038	K-1704	3/16"	4"
K-6039	K-1705	1/4"	4"
K-6040	K-1706	5/16"	4"
K-6041	K-1707	3/8"	4"
K-6042	K-2355	7/16"	4"
K-6043	K-1708	1/2"	4"

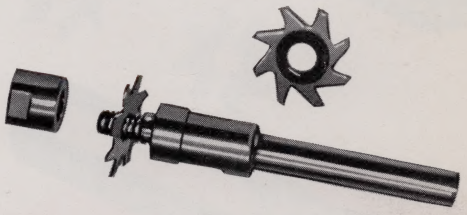
6" LONG BLANKS — Sold in Packages of 6 Only

Cobalt Cat. No.	H.S.S. Cat. No.	Blank Dia.	Length
K-6045	K-5630	1/4"	6"
K-6046	K-5631	5/16"	6"
K-6047	K-5632	3/8"	6"
K-6048	K-5633	1/2"	6"

Larger Diameters Available; Write Factory.

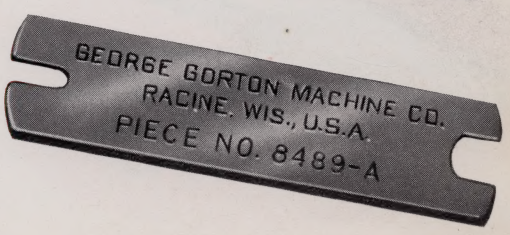
GRADUATING ARBOR AND SAWS

With an arbor as shown, graduating work can be done on any Gorton pantograph equipped with collet type spindle on discs and dials up to 1-1/2" dia.
H.S.S. saws for use with above described arbor are listed below. Carbide saws are shown on page 11.



CP-422 Graduating Arbor Only, 3/16" Dia. Shank, Complete with Collar and Lock Nut

8489 Wrench. For use with above arbors as well as Gorton midget chucks and Gorton taper shank cutters shown on pages 6 and 14.



GRADUATING SAWS

Cat. No.	Thickness	Saw Dia.	Hole Dia.
14922	.005"	9/16"	5/32"
14923	.006"	9/16"	5/32"
14924	.007"	9/16"	5/32"
14925	.008"	9/16"	5/32"
14927	.010"	9/16"	5/32"
14929	.012"	9/16"	5/32"
14932	.015"	9/16"	5/32"
14937	.020"	9/16"	5/32"
14942	.025"	9/16"	5/32"

Intermediate Sizes Available — See Price List

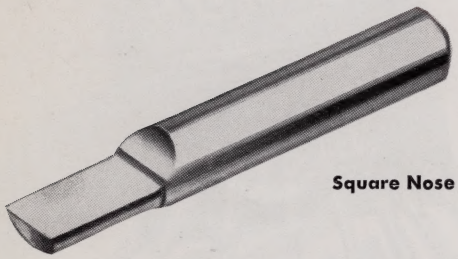
SOLID CARBIDE END MILLS

FOR ALL HIGH SPINDLE SPEED MILLING MACHINES AND MILLING HEADS

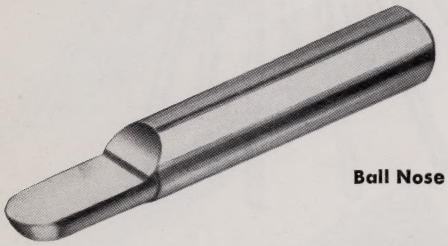
When ordering end mills from this page, be sure to specify either C-2 grade, for cast iron and other nonferrous material, or C-6 grade for steel. If you do not specify, we will furnish C-2 which is a good general purpose grade of carbide.

These GORTON solid carbide end mills are especially recommended for use on GORTON Super-Speed Millers, Duplicators and Pantographs; Kellers, Pratt & Whitney Die Sinkers and Profilers; Kearney & Trecker Rotary Die Millers; Reed-Prentice Vertical Mills; and Bridgeport, Frae, and Tree Milling Heads. We recommend their use on the above machines because of greater strength, higher speeds, ease of regrinding to other shapes, easily resharpened, accurate to — .0005".

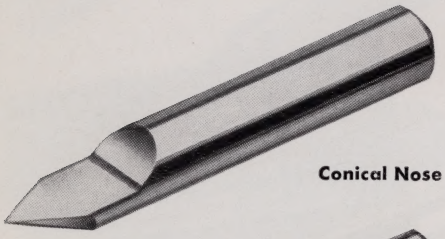
Solid carbide end mills have more rigidity than cutters with steel shanks. There are no brazed tips to loosen. Solid one-piece construction permits cutting load to be evenly distributed among the flutes resulting in longer life, smooth cutting, and better finish. Order by catalog number according to style and size required.



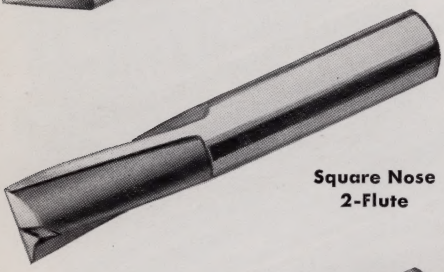
Square Nose



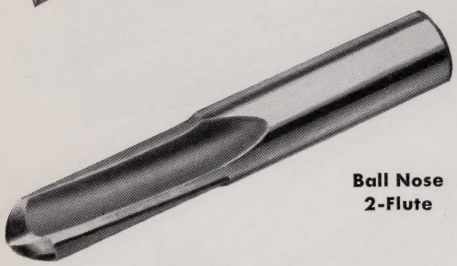
Ball Nose



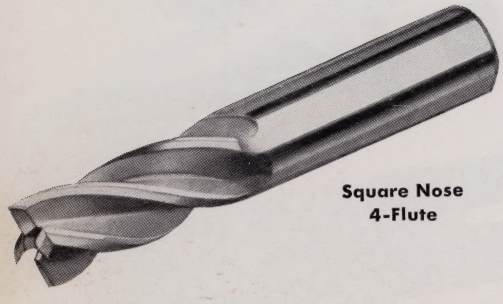
Conical Nose



Square Nose 2-Flute



Ball Nose 2-Flute



Square Nose 4-Flute

SINGLE FLUTE — 3 STYLES

Cat. No. Square Nose	Cat. No. Ball Nose	Cat. No. 60° Conical	Cutter Dia.	Length of Cut	Total Length
K-5832	K-5840	K-5848	1/8"	3/16"	1"
K-5833	K-5841	K-5849	5/32"	3/16"	1"
K-5834	K-5842	K-5850	3/16"	1/4"	1-1/8"
K-5835	K-5843	K-5851	1/4"	3/8"	1-1/4"
K-5836	K-5844	K-5852	5/16"	3/8"	1-1/2"
K-5837	K-5845	K-5853	3/8"	1/2"	2"
K-5838	K-5846	K-5854	7/16"	1/2"	2"
K-5839	K-5847	K-5855	1/2"	9/16"	2"

Be sure to specify tip-off required on conical nose cutters.
Conical Nose Cutters have 60° included angle unless otherwise specified.

TWO FLUTE — SQUARE AND BALL NOSE

Cat. No. Square Nose	Cat. No. Ball Nose	Cutter Dia.	Shank Dia.	Length of Cut	Total Length
K-5856	K-5864	1/8"	1/8"	1/2"	1-1/2"
K-5857	K-5865	5/32"	3/16"	9/16"	2-3/8"
K-5858	K-5866	3/16"	3/16"	5/8"	2-3/8"
K-5859	K-5867	1/4"	1/4"	3/4"	2-1/2"
K-5860	K-5868	5/16"	5/16"	13/16"	2-1/2"
K-5861	K-5869	3/8"	3/8"	7/8"	2-1/2"
K-5862	K-5870	7/16"	7/16"	7/8"	2-1/2"
K-5863	K-5871	1/2"	1/2"	1"	3"

FOUR FLUTE — SQUARE NOSE SPIRAL

Cat. No.	Cutter Dia.	Shank Dia.	Length of Cut	Total Length
K-5872	1/16"	1/8"	3/16"	1-1/2"
K-5873	3/32"	1/8"	3/8"	1-1/2"
K-5874	1/8"	1/8"	1/2"	1-1/2"
K-5875	5/32"	3/16"	9/16"	2-1/2"
K-5876	3/16"	3/16"	5/8"	2-1/2"
K-5877	1/4"	1/4"	3/4"	2-1/2"
K-5878	5/16"	5/16"	13/16"	2-1/2"
K-5879	3/8"	3/8"	7/8"	2-1/2"
K-5880	7/16"	7/16"	7/8"	2-1/2"
K-5881	1/2"	1/2"	1"	3"

GORTON CARBIDE TIPPED TAPER SHANK CUTTERS

PACKAGED CUTTERS — 6 cutters to a package

These cutters are identical to those illustrated and described on Page 6 except that a carbide insert has been brazed along the cutting edge for a length of 5/8". Ideal for cutting in abrasive plastics and other materials as well as work in tool steel due to long life of the carbide cutting edge.

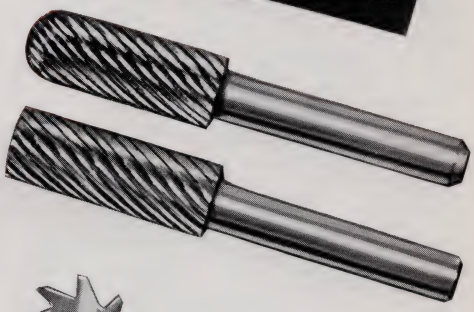
Cat. No. Sharpened	Cat. No. Unsharpened	6 Cutters Size No.	Dia. at Point	Length
19273	19276	1	.100"	1-29/32"
19274	19277	2	.150"	1-29/32"
19275	19278	3	.240"	1-29/32"

GORTON SOLID CARBIDE CUTTER BLANKS

Specify Grade Desired, C-2 or C-6

Furnished in packages of one or more solid round blanks. Upon receipt, they may be ground to any angle desired with proper width of tip, if any, and the cutting edge diamond lapped. These blanks may be used with any straight shank collet. Specify whether for steel, cast iron, or nonferrous material.

Regular Length			Extra Long Length		
Cat. No.	Dia.	Length	Cat. No.	Dia.	Length
K-1709	1/8"	1"	K-5882	1/8"	1-1/2"
K-1710	5/32"	1"	K-5883	5/32"	1-1/2"
K-5884	3/16"	1-1/8"	K-5888	3/16"	1-1/2"
K-5885	1/4"	1-1/4"	K-5889	1/4"	2"
K-5886	5/16"	1-1/2"	K-5890	5/16"	2"
K-5887	3/8"	1-1/2"	K-5891	3/8"	2"



CARBIDE GROUND TOOTH MILLS

These ground tooth mills are made of selected carbide and are cam ground. They feature extreme concentricity and high finish and excel mounted points in economy and performance. Otherwise, they are quite similar to the H.S.S. ground tooth mills illustrated and described on Page 8. Note: Square nose mills are ground for end cutting.

Cat. No. Square Nose	Cat. No. Ball Nose	Cutter Dia.	Shank Dia.	Length of Cut
K-5892	K-5898	1/8"	1/4"	1/2"
K-5893	K-5899	3/16"	1/4"	1/2"
K-5894	K-5900	1/4"	1/4"	1"
K-5895	K-5901	5/16"	1/4"	1"
K-5896	K-5902	3/8"	1/4"	1"
K-5897	K-5903	1/2"	1/4"	1"

CARBIDE GRADUATING SAWS

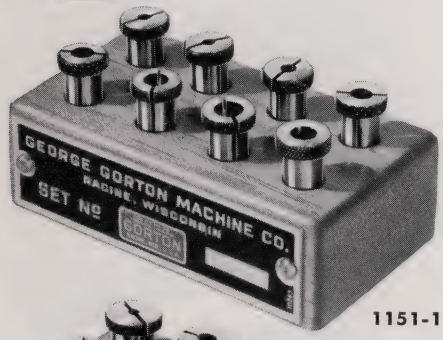
These, like the H.S.S. saws on Page 9, permit graduating work to be done on any Gorton Pantograph equipped with 5/16" or 3/8" straight shank collet type spindle or on Gorton Graduating Machines on discs, dials, or knobs up to 1-1/2" diameter. All carbide saws listed below will fit the graduating saw arbor shown on Page 9.

Cat. No.	Thickness	Saw Dia.	Hole Dia.
K-5904	.008"	9/16"	5/32"
K-5905	.010"	9/16"	5/32"
K-5906	.012"	9/16"	5/32"
K-5907	.015"	9/16"	5/32"
K-5908	.020"	9/16"	5/32"

IMPORTANT

Use our cutter sharpening and resharpening service for all types of cutters shown on Page 4 through Page 11.

GORTON COLLETS, BUSHINGS and ADAPTERS . .



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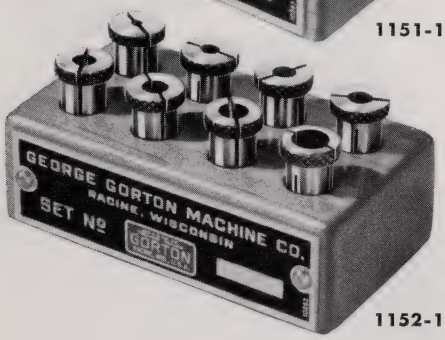

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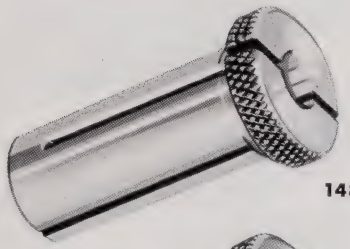
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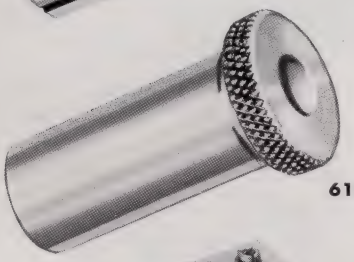

6141

1169-1

1170-1

1190-1

COLLET BUSHINGS FOR PANTOGRAPH MACHINES

These collet bushings are intended primarily for use with Gorton Pantograph Machines having collet type spindles but can be used in any spindle using a 5/16″ or 3/8″ diameter spring collet. Made in 5/16″ and 3/8″ diameter body sizes; slotted, with straight holes, also with solid body having taper hole for Gorton taper shank cutters. Accurately finished. For convenience and economy purchase a complete set; furnished in handy wooden rack as shown.

1151-1 set consists of 8 Collet Bushings with 5/16″ diameter body in sizes as listed below, including taper hole bushing 9381, complete with rack.

1152-1 set consists of 8 Collet Bushings with 3/8″ diameter body in sizes as listed below, not including taper hole bushing 6141, but complete with rack.

INDIVIDUAL COLLET BUSHING DESCRIPTIONS

5/16″ or 3/8″ diameter body, slotted, with straight holes from 1/10″ to 5/16″ diameter, for use in 5/16″ and 3/8″ spindle hole or collet. Sizes from 3/16″ to 5/16″ are ground O.D. and I.D. Three smallest sizes are ground O.D. and reamed I.D.

Cat. No. 5/16″ Shank	Cat. No. 3/8″ Shank	Hole Size	Cat. No. 5/16″ Shank	Cat. No. 3/8″ Shank	Hole Size
14890	14566	1/10″	14894	14570	2/10″
14891	14567	1/8″	14895	14571	7/32″
14892	14568	5/32″	14896	14572	1/4″
14893	14569	3/16″		14573	5/16″

TAPER SHANK CUTTER ADAPTERS

These adapters are similar to the collet bushings described above except that they are solid with Gorton taper hole. They are used to hold Gorton taper shank cutters in collet type spindles. They are also useful in sharpening taper shank cutters in connection with the Gorton Grinder collets shown on opposite page.

Cat. No.	Shank Diameter
9381	For use with 5/16″ dia. collet
6141	For use with 3/8″ dia. collet

GORTON PANTO-COLLETS

These panto-collets are for use with panto-collet type spindles. They will hold straight shank cutters rigidly in place. Each panto-collet is slotted at both ends and is clamped in place and later ejected by the panto-collet nut. Furnished in sets as shown below.

Cat. Set No.	For Following Machines	Max. Capacity
1169-1	Gorton 3-F, 3-U, P1-2, P1-3	5/16″
1170-1	Gorton 3-X, 3-Z, P2-2, P2-3	3/8″
1190-1	Gorton P3-2	1/2″

EXTRA NUTS FOR PANTO-COLLET TYPE SPINDLES

K-5414 5/16″ capacity (3-F, 3-U, P1-2, P1-3)
K-5425 3/8″ capacity (3-X, 3-Z, P2-2, P2-3)
K-5627 1/2″ capacity (P3-2)

COMPOSITION OF SETS

Cat. No. Set 1169-1	Cat. No. Set 1170-1	Cat. No. Set 1190-1	Hole Size
K-5405	K-5415		1/10″
K-5406	K-5416	K-5643	1/8″
K-5407	K-5417		5/32″
K-5408	K-5418	K-5642	3/16″
K-5409	K-5419		2/10″
K-5410	K-5420		7/32″
K-5411	K-5421	K-5625	1/4″
*K-5412	K-5422	K-5624	5/16″
	*K-5423	K-5623	3/8″
		K-5622	7/16″
		K-5621	1/2″

* Not included in set; furnished with machine.

Special sizes available at additional cost. Write factory for prices and delivery.

. . . for work of highest accuracy

GORTON SPRING COLLETS (Patent 1,889,653)

For use with Model 8-D and 0-16A machines having GORTON Taper Spindle, also for 8½-D and 9-J Mills and Duplicators having spring collet adapters shown below. For added savings, convenience, and increased production, order a complete set and have the correct collet when needed.

1153-1 set consists of 10 collets in standard sizes listed below, complete with handy wooden rack.

1153-1

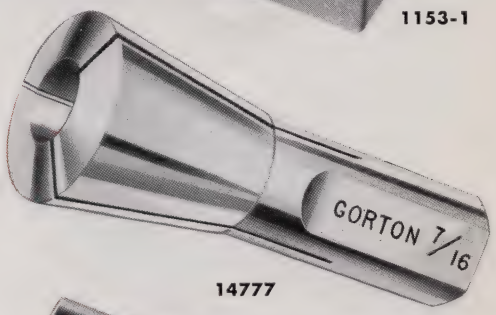
BRIDGEPORT R-8 COLLETS

1267-1 set consists of 8 collets in standard sizes listed below, complete with handy wooden rack.

NO. 9 B&S COLLETS

1262-1 set consists of 8 collets in standard sizes listed below, complete with handy wooden rack.

Cat. No. Set 1153-1	Cat. No. Set 1267-1	Cat. No. Set 1262-1	Hole Size
14780			1/16″
14779			1/10″
14770	K-6171	K-6114	1/8″
14771			5/32″
14772	K-6172	K-6115	3/16″
14774	K-6173	K-6116	1/4″
14775	K-6174	K-6117	5/16″
14776	K-6175	K-6118	3/8″
14777			7/16″
14778	K-6176	K-6119	1/2″
	K-6177	K-6120	5/8″
	K-6178	K-6121	3/4″

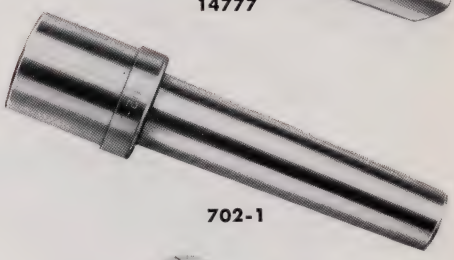


14777

GORTON SPRING COLLET ADAPTERS

Complete with special draw-bar (not shown) for adapting GORTON Spring Collets to millers and duplicators. Hardened and ground inside and out. Standard with the following machines:

Cat. No.	Adapter Shank Size
702-1	No. 9 B & S (Gorton 8½-D)
702-2	No. 9 B & S (Mastermil)
472-1	No. 10 B & S (Gorton 9-J)



702-1

*GORTON GRINDER COLLETS

Equip your cutter grinder with a complete set of collets and avoid costly production delays. Keep your machines in constant operation by providing properly sharpened cutters — your assurance of uniform quality and accuracy which increases profits. Sets are available in two styles, round and square hole, and are provided with handy rack for safe, convenient storage.

The 4NS collets fit GORTON Cutter Grinders 265-6 and 375-3; also for use with GORTON Double Duty Toolgrind 1106-1.

Note: The new GORTON Grinder, G-2, uses the 3NS series shown below.

1150-1 (4NS), set consists of 16 round hole collets in standard sizes as listed below, complete in wood block.

1210-1 (3NS), set consists of 14 round hole collets in standard sizes as listed below, complete in wood block.

1150-1

Cat. No.		Hole Size	Cat. No.		Hole Size
3NS	4NS		3NS	4NS	
K-5790	K-623	1/16″	K-5798	K-632	1/4″
K-5791	K-624	3/32″	K-5799	K-633	9/32″
K-5792	K-625	1/10″	K-5800	K-634	5/16″
K-5793	K-626	1/8″	K-5801	K-636	3/8″
K-5794	K-627	5/32″	K-5802	K-638	7/16″
K-5795	K-629	3/16″	K-5803	K-640	1/2″
K-5796	K-630	2/10″		K-641	9/16″
K-5797	K-643	7/32″		K-642	5/8″

K-632

*** Grinder Collet Adapters for Taper Shank Cutters — See Price List.**

GORTON SQUARE HOLE COLLETS

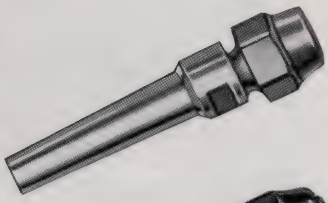
1155-1 (4NS), set consists of 6 square hole collets as shown below, complete in wood block.

Cat. No.	Hole Size	Cat. No.	Hole Size
K-4935	3/16″	K-3921	3/8″
K-3920	1/4″	K-3922	7/16″
K-3501	5/16″	K-4934	1/2″

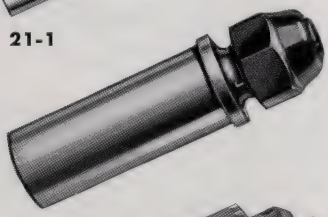
K-3920

Intermediate and special sizes available. Write factory for prices and delivery.

GORTON CHUCKS and COLLETS .



21-1



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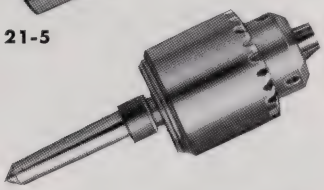
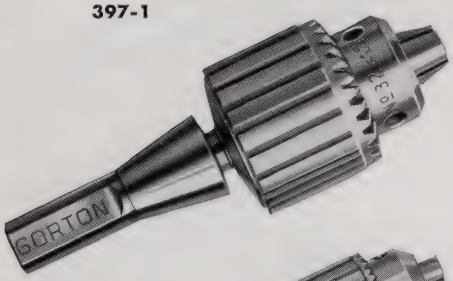


397-1



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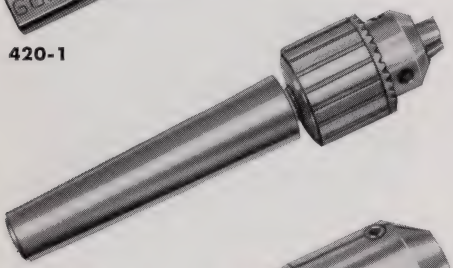

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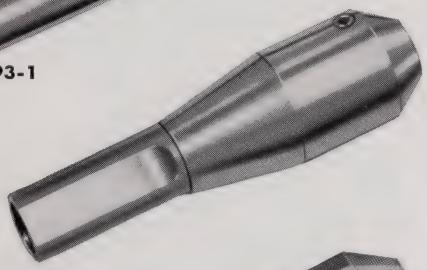


K-5922

K-5367

GORTON MIDGET CHUCKS

For holding 1/10″ and 1/8″ dia. cutter blanks listed on page 9. Blanks must be ground in place in the chuck to secure a perfectly true running cutter. These midget chucks have hardened nut, tempered body, and ground shank. Hole goes all the way through shank. The 5/16″ dia. and 3/8″ dia. straight shank chucks fit all spring collets and are indispensable for delicate milling and engraving on any machine as they provide sufficient extension for good visibility of work.

Cat. No.	Shank	Hole Dia.	Machines
21-1	Gorton Taper	1/10″	For all Gorton Pantograph Machines having Gorton taper shank spindle hole.
21-2	Gorton Taper	1/8″	
21-5	5/16″ Dia.	1/10″	For all machines having collet type spindles with 5/16″ maximum capacity—Gorton 3-B, 3-F, 3-U, P1-2, P1-3.
21-6	5/16″ Dia.	1/8″	
21-3	3/8″ Dia.	1/10″	For all machines having 3/8″ dia., collet capacity — Gorton 3-H, 3-X, 3-Z, P2-3, P3-2.
21-4	3/8″ Dia.	1/8″	

DRILL CHUCKS

With Gorton Taper and Straight Shanks

These are useful and convenient for small drills. They can be used with pantograph engraving machines having either taper or collet type spindles. Wrench is furnished with every chuck.

Cat. No.	Capacity	Shank	Jacob Chuck No.
397-1	0″ to 5/32″ dia.	Gorton Taper	0
999-1	0″ to 5/32″ dia.	5/16″ Dia. Straight	0
1000-1	0″ to 5/32″ dia.	3/8″ Dia. Straight	0

DRILL CHUCKS

For Vertical and Horizontal Mills and Duplicators

Available in two chuck sizes and three choices of shank. These chucks are fitted with hardened and ground arbors, the Gorton taper shank being interchangeable with Gorton spring collets. Wrench furnished with every chuck.

No. Cat.	Capacity	Shank	Jacob Chuck No.
420-1	0″ to 3/8″	Gorton Shank	32
694-1	0″ to 1/2″	Gorton Shank	34
793-1	0″ to 1/2″	9 B&S	34
794-1	0″ to 1/2″	10 B&S	34

END MILL HOLDERS

For single and double end mills. Set screw rests tightly against flats provided on shanks of end mills, preventing cutters from pulling down. Made to retain original accuracy indefinitely. Alloy steel, hardened and ground inside and out.

Gorton Taper Cat. No.	9 B&S Shank Cat. No.	10 B&S Shank Cat. No.	Hole Dia.
K-5922	K-5367	—	3/16″
K-5923	K-5927	K-5929	1/4″
K-5924	K-5928	K-5930	5/16″
K-5925	K-1740	K-1746	3/8″
K-5926	K-1741	K-1747	1/2″
—	K-1742	K-1748	5/8″
—	K-1743	K-1749	3/4″
—	K-1744	K-1750	7/8″
—	K-1745	K-1751	1″

NOTE: For Nos. 30 and 40 N. S. taper shanks, refer to price list. No. 3 Morse and No. 50 N. S. taper shank holders available — delivery and prices on request from factory.

CHUCK AND COLLET SETS

Includes 10 collets, adapter chuck, nut and wrench, boxed

These collet chucks are precision made and embody the latest design features, strongly constructed of alloy steel, hardened and ground throughout, including threads. Chuck has round safety nut with convenient flats for wrench. Box is substantial and provides convenient storage when set is not in use. Collets are protected and easily removed from rack shown. Set consists of 10 collets, chuck, nut, and wrench. Collet sizes are shown in second table below. Chucks and nuts available without collets or wrench and wrenches may be ordered separately. See table below. Maximum collet capacity 1″ dia.

Complete Set Cat. No.	Shank Taper No.	Chuck and Nut Only Cat. No.	Wrench Only Cat. No.
703-2	9 B&S	K-1734	10290
471-2	10 B&S	K-1735	10290
724-2	4 Morse	K-1737	10290
1055-1	40 N. S.	K-4975	10290
1224-1 No Box	50 N. S.	K-4974	10290

No. 9 B&S tapped 1/2″ 13 R. H.
No. 10 B&S, 4 Morse and 40 N. S. tapped 5/8″ 11 R. H.
No. 50 N. S. tapped 1″ 8 R. H.

703-2

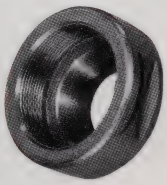
K-1734

K-1799

COLLETS FOR ABOVE SETS — *intermediate sizes available*

These collets are precision made and are carefully checked to assure minimum of runout. Hardened and ground all over to give long service and accurate performance. Intermediate and metric sizes available; see price list for prices.

Collet Cat. No.	Hole Dia.	Collet Cat. No.	Hole Dia.
K-1799	1/8″	K-1804	1/2″
K-1800	1/4″	K-1805	5/8″
K-1801	5/16″	K-1806	3/4″
K-1802	3/8″	K-1807	7/8″
K-1803	7/16″	K-1808	1″



K-1734

CHUCK AND COLLET SETS

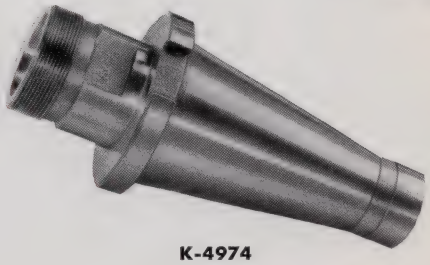
Includes 8 collets, adapter chuck, nut and wrench, boxed

The design features of the following sets are similar to those described above but proportionally smaller. Maximum capacity of collets in these sets is 3/4″ dia. Set complete is boxed as shown in top illustration. Chucks and nuts available without collets or wrench and wrenches may be ordered separately. See table below.

Complete Set Cat. No.	Shank Taper No.	Chuck and Nut Only Cat. No.	Wrench Only Cat. No.
746-2	3 Morse	K-1736	K-5635
1162-1 No Box	30 N. S.	K-4190	K-5635

No. 3 Morse and 30 N. S. tapped 1/2″ 13 R. H.

K-5635



K-4974

COLLETS FOR ABOVE SETS

Intermediate Sizes Available

These collets are made to the same precision standards and are subject to the same rigid inspection as the larger series described above. Capacity is 3/4″ dia. maximum and can be used only with the two adapter chucks listed immediately above. Intermediate and metric sizes available; see price list for prices.

Collet Cat. No.	Hole Dia.	Collet Cat. No.	Hole Dia.
K-3944	1/8″	K-1842	7/16″
K-1839	1/4″	K-1843	1/2″
K-1840	5/16″	K-1844	5/8″
K-1841	3/8″	K-1845	3/4″

NOTE
See milling machine arbors and fittings, beginning on page 47.

GORTON *precision tracing* STYLES .

3253

K-5679

FOR PANTOGRAPHS AND DUPLICATORS V-GROOVE TRACING STYLES

3253 for use with V-groove copy on all pantograph machines. 2/10″ dia., by 3-1/8″ long; 90° included point. Hardened and ground all over.

K-5679. Same as above but with carbide tip, giving longer life without regrinding.

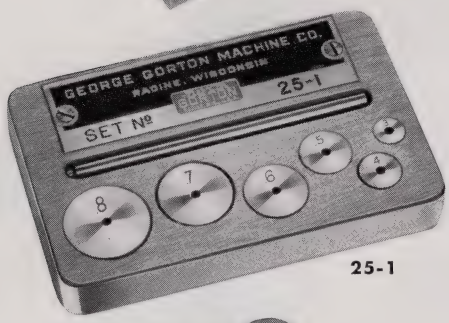
795-1

SQUARE NOSE TRACING STYLE SET

795-1 set for use with square bottom groove or relief copy on all pantographs. Hardened and ground all over; both ends marked with dia., in steps of .005″. 17 styles in sizes from .035″ to .200″. 3 conical point styles 3253 included. All styles have .200″ shanks. Boxed with plate showing sizes for most efficient use. (See price list for individual prices.)

Individual Styles

Style No.	Dia. at Ends	Style No.	Dia. at Ends
12521	.035″-.040″	12530	.125″-.130″
12522	.045″-.050″	12531	.135″-.140″
12523	.055″-.060″	12532	.145″-.150″
12524	.065″-.070″	12533	.155″-.160″
12525	.075″-.080″	12534	.165″-.170″
12526	.085″-.090″	12535	.175″-.180″
12527	.095″-.100″	12536	.185″-.190″
12528	.105″-.110″	12537	.195″-.200″
12529	.115″-.120″		



25-1

ROLLER TRACING STYLE SET

25-1 set consists of one set of rollers and style complete as shown at left. For use with square bottom groove and relief copy on all pantographs. Style is .200″ dia., with .100″ end to fit holes in rollers which have outside dia. of .3, .4, .5, .6, .7 and .8″ as marked. Each piece hardened and ground all over, furnished in convenient box. (See price list for individual prices.)

1195-1

SQUARE NOSE TRACING STYLE SET

1195-1. This set consisting of 30 square nosed styles is for use with the Gorton P1-3, P2-3 and P3-2 pantograph machines as well as for certain duplicator work. All are accurately gauged and marked for size and are hardened and ground all over. Each style is .005″ oversize to correspond with new end mills which always cut oversize. All styles have 3/8″ dia. shank and working ends start at .100″ and go up to 1″ according to tabular list on opposite page. Set is furnished in wood block as shown at left.

1274-1. Same as above but with smooth, long-wearing hard flash chrome finish.
(See price list for individual prices.)

Use Gorton stylus grinding service— all shapes and sizes precision ground.

. . . for 2 and 3-DIMENSIONAL WORK

COMBINATION TRACING STYLE SETS FOR PANTOGRAPHS AND DUPLICATORS

Accuracy in die and mold duplication depends upon accurate cutters and tracing styles. Gorton styles are precision ground after hardening and are accurately gauged and marked for size. Each set including wood block holder costs less than when styles are purchased separately. Each style is .005" oversize to match new end mills which always cut oversize.

680-1. Set of 30 styles consisting of 2 each of the square nose sizes and one each of the ball nose — from .100" dia. to 3/8" in 1/32" steps. 3/8" dia. shank in wood block as shown.

1275-1. Same as above but with smooth, long-wearing hard flash chrome finish. (See price list for individual prices.)

757-1. Set of 30 styles consisting of 2 each of the square nose sizes and one each of the ball nose — from 13/32" to 11/16" in 1/32" steps. All styles have 3/8" dia. shank and are furnished in wood block as shown.

1276-1. Same as above but with smooth, long-wearing hard flash chrome finish. (See price list for individual prices.)

758-2. Set of 20 styles consisting of one each of square nose and ball nose styles — from 23/32" to 1" in 1/32" steps. All styles have 3/8" dia. shank and are furnished in wood block as shown.

1277-1. Same as above but with smooth, long-wearing hard flash chrome finish. (See price list for individual prices.)

Individual Styles (.005" oversize)

Square Nose No.	Ball Nose No.	Dia.	Square Nose No.	Ball Nose No.	Dia.
11869	11879	1/10"	12807	12817	9/16"
11870	11880	1/8"	12808	12818	19/32"
11871	11881	5/32"	12809	12819	5/8"
11872	11882	3/16"	12810	12820	21/32"
11873	11883	7/32"	12811	12821	11/16"
11874	11884	1/4"	12500	12510	23/32"
11875	11885	9/32"	12501	12511	3/4"
11876	11886	5/16"	12502	12512	25/32"
11877	11887	11/32"	12503	12513	13/16"
11878	11888	3/8"	12504	12514	27/32"
12802	12812	13/32"	12505	12515	7/8"
12803	12813	7/16"	12506	12516	29/32"
12804	12814	15/32"	12507	12517	15/16"
12805	12815	1/2"	12508	12518	31/32"
12806	12816	17/32"	12509	12519	1"

See price list for chrome plated styles.

ADJUSTABLE TRACING STYLUS

This useful Gorton Adjustable Tracing Style is for oversize cutting previous to finish grinding. It is also used in the actual grinding operation because it is adjustable for grinding wheel wear. Total available compensation is .050" in increments of .001". Simple set screw locks unit in any position.

Important: Tracing style collet hole in standard tracer arm must be bored to accommodate this adjustable tracing style. Adapter bushing for standard tracing style collet is furnished with each unit.

1076-1 for Gorton 3-U and P1-2 Pantographs

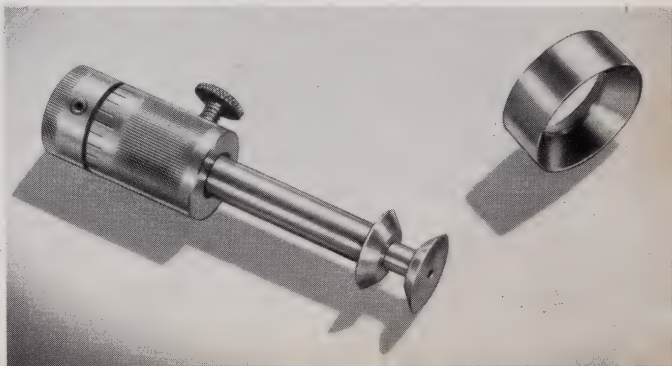
1076-2 for Gorton 3-Z and P2-2 Pantographs

1196-1 for Gorton P3-2 and 3-S Pantographs

680-1

757-1

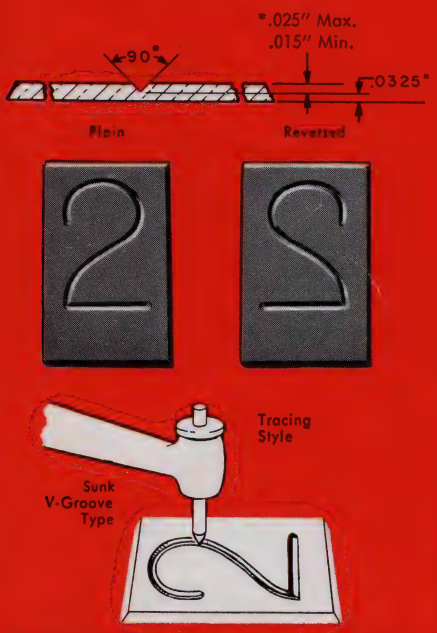
758-2



GORTON MASTER COPY TYPE

the three basic forms

SUNK V-GROOVE (90°)

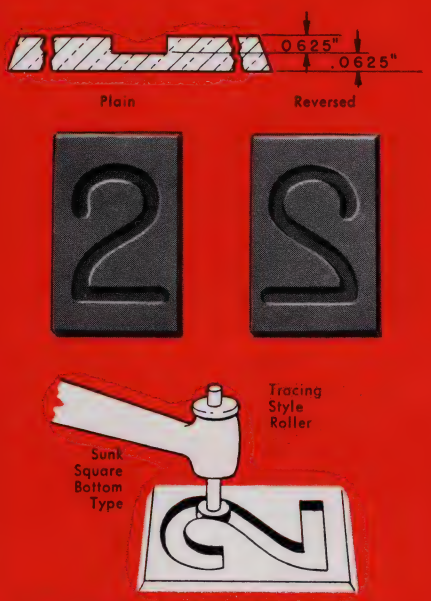


SUNK V-GROOVE TYPE — Principal uses: (1) to engrave reading matter on label plates, instruments, tools, etc.

(2) to cut sunken lettering in dies and molds, the most common use.

Different widths of face are made by varying width of cutter used or by varying depth of cut taken with conical shaped cutter.

SUNK SQUARE BOTTOM GROOVE

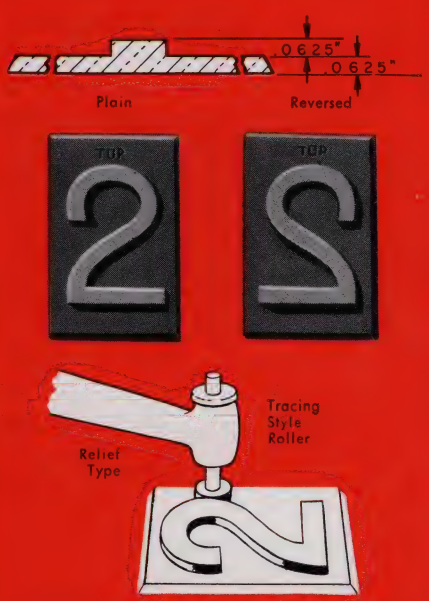


SUNK SQUARE BOTTOM GROOVE TYPE — Principal uses: (1) to produce sunken shaded lettering, as in Century, Roman, or Old English.

(2) to produce unshaded lettering wherever square corners are required, as in Chamfer Gothic.

Tracing styles used are cylindrical with square ends.

RELIEF (Raised)

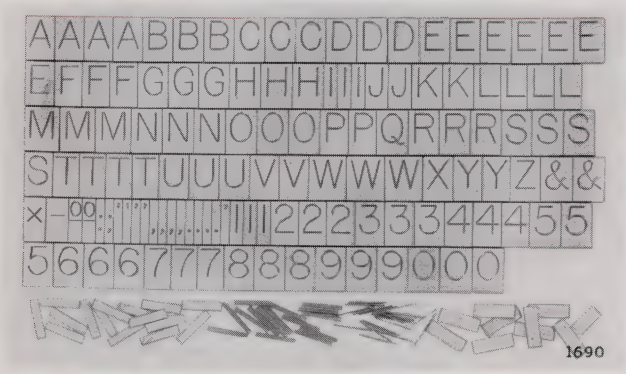


RELIEF (Raised) TYPE — Principal use: to produce raised or relief characters on molds, dies, brass, and steel stamps, etc. Tracing styles used are cylindrical with square ends.

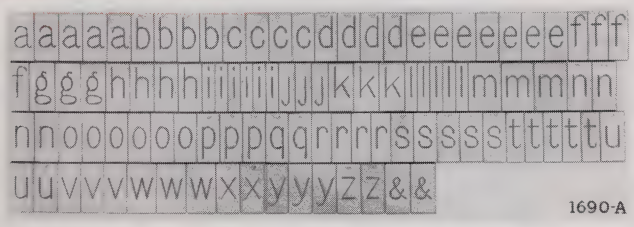
THREE-DIMENSIONAL RELIEF (Raised) TYPE — Principal use: to produce raised steel letters on stamps and dies. Tracing styles used are conical shaped according to side wall angle required See Page 31 for complete description.

* Depth varies depending on copy size and style.

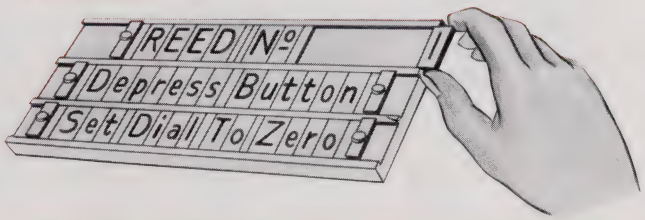
4-A SET OF TYPE — capitals



5-A SET OF TYPE — lower case



TYPEHOLDER



IMPORTANT

For your information the height and width of letters have the following relationships: EXTRA EXTENDED — width is approximately 50 per cent greater than the height; EXTENDED — width and height are the same; NORMAL — width is 2/3 of height; CONDENSED — width is 1/2 of height; EXTRA CONDENSED — width is 1/3 of height.

GENERAL INFORMATION

WHAT IS MASTER COPY TYPE?

MASTER COPY is the name given to the templates or patterns from which designs or characters are reproduced on the Pantograph Machine. By using the variable settings on the Pantograph Machine the MASTER COPY can be reproduced from full size down to 1/10th or even 1/100th, depending on the type of machine used.

TYPE IS FURNISHED IN SETS

A set consists of Alphabets and Numerals, Special Characters and Punctuation Marks, each engraved on its individual brass block or body. The size of the Set is designated by stating the number of A's the Set contains. The number of the other characters varies according to the frequency of their use in the language.

CAPITALS

The 4-A Set (shown at left, Photo 1690) consists of 75 Capitals, 30 Numerals, a sufficient number of punctuation marks, special characters and assorted spacers. Approximately 185 pieces. The 2-A Set (not shown) consists of 44 Capitals, 30 Numerals, a sufficient number of punctuation marks, special characters and assorted spacers. Approximately 135 pieces.

The 1-A Set (not shown) comprises one each of all characters as shown in the specimen plate of the Type Face selected (exclusive of mottos). Number of pieces will vary from 15 per set in the case of Fractions to 111 per Set in the Egyptian Typewriter. In some instances, where the type is not strictly self-spacing, a number of assorted spacers is included.

LOWER CASE

Lower Case Type is furnished, dependent on the type size, in 5-a Sets (shown at left, Photo 1690-A) consisting of 102 characters — or in 4-a Sets of 80 characters, or 1-a Sets of one each of the characters as shown in the type specimens on succeeding pages.

SELECTING THE RIGHT TYPE

On the following pages are specimens of type. In each a complete set of characters is shown for your convenience in comparing individual letters and numerals. Simple characters having a single line and few corners, such as Gorton face, can be cut faster than more complicated faces such as Engravers' Old English, and are preferable for legibility. They also lend themselves more readily to producing both heavy and light line lettering, and are the least expensive. The MASTER COPY TYPE most commonly used is the 3/4" face on the 1-1/4" body. For larger work, or where extreme accuracy is essential, the 1-1/2" or 3" faces are recommended.

TYPE SPECIFICATIONS

All of the MASTER COPY TYPES listed in this catalog are engraved on bodies of a special hard brass, known as Engravers' Brass, which is long wearing. MASTER COPY TYPE bodies are beveled on both top and bottom to fit grooves in the standard typeholders. Sunk V-groove type bodies in all sizes are 1/16" thick. Relief type bodies are 1/8" thick including the height of the raised character, which stands 1/16" above the top of the body. All bodies having characters in the exact center, vertically, are marked "TOP" to prevent the user from setting them in an inverted position in the typeholder. The overall height of the type body varies with the various type face sizes, as will be noted in the type tables on the succeeding pages.

TYPEHOLDERS

These MASTER COPY TYPES may be set up in a Typeholder similar to printer's type to form any desired combination. (See illustration on opposite page.) The proper typeholder to use with any given type is determined by the body size of the type, the number of lines to be run at one set-up, and the total length of the longest line of type. For complete assortment of typeholders see Page 20.

HOW TO ORDER

Carefully read the information on these two pages — note the forms and uses of MASTER COPY TYPE. Then do these 4 simple things —

FIRST — Select **STYLE** of Type from specimens shown on following pages — Gorton Normal, Gothic, Century, etc.

SECOND — Select **FORM** of Type required — SUNK V-GROOVE, or SUNK SQUARE BOTTOM GROOVE, or RELIEF.

THIRD — Choose between PLAIN or REVERSED Type. Note: the Pantograph does NOT reverse the characters:
Note: GORTON reproduces GORTON and MOTROB reproduces MOTROB.

FOURTH — Determine **SIZE** of Type Face and Body. Order by catalog number at left in the proper table under the style desired.

FOR EXAMPLE — To order Gorton Normal Capitals, SUNK V-GROOVE, Plain — 3/4" on 1-1/4" Body — order the Catalog Number 10-1. (To be found on Page 21 under "Gorton Normal" in the Table, like this):

SUNK V-GROOVE — plain

Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.
832-1	Caps	3/8"	1-1/4"	4-A	3 lbs.
833-1	Lower	3/8"	1-1/4"	5-a	2 lbs.
10-1	Caps	3/4"	1-1/4"	4-A	3 lbs.
11-1	Lower	3/4"	1-1/4"	5-a	2 lbs.

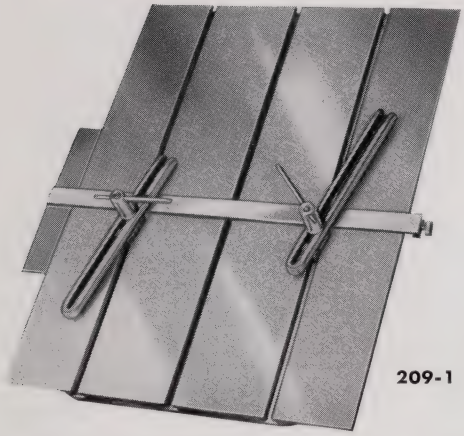
NOTE — All copy sets as listed on 1-1/4" size blanks or smaller are standard, carried in stock. All larger sizes are made up special to order and cannot be returned for credit. All standard type sets on standard 1-1/4" bodies are shipped in boxes designed as racks to keep the type separated for convenience of the operator.

SPECIAL COPY TYPE AND MASTERS

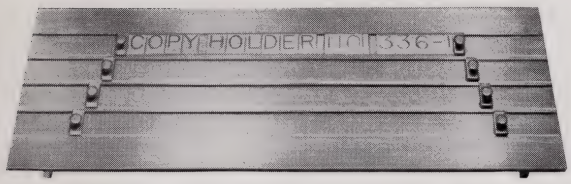
For over 60 years we have specialized in the making of special masters, copy type, patterns and designs. Our background and experience enable us to produce them to your specifications at tremendous savings because we are fully equipped mechanically and have the required skilled workmen. Our free engineering service is on call to make recommendations and to help you solve your problems.

If our catalog does not list the style or size of master or copy type you are in need of, send us a dimensioned sketch giving complete details and we will gladly send you price and delivery information. Any of the material shown in this catalog can also be made special to suit your needs. We are in a position to furnish promptly and economically almost any style of special copy type masters or templates you require.

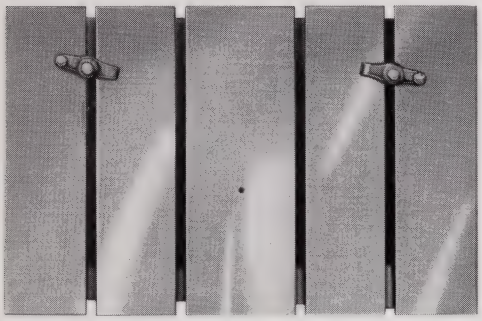
GORTON COPY (TYPE) HOLDERS



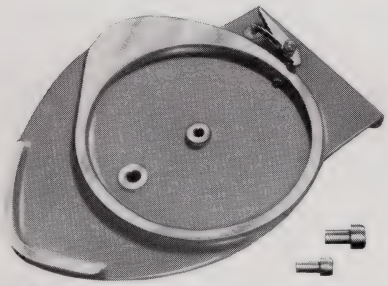
209-1



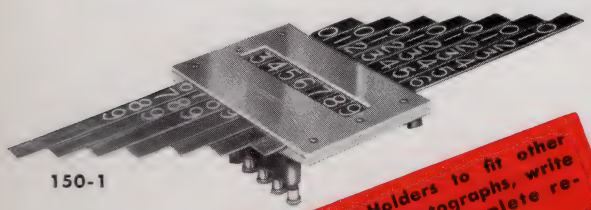
336-1



8-2



1107-1



150-1

NOTICE For Copy Holders to fit other than Gorton Pantographs, write factory, giving complete requirements.

AUXILIARY TABLE 209-1

Specify machine model and serial number when ordering this Copy Holder.

Ideal for adapting standard machine tables to hold large, flat plates, signs, instrument panels, etc., from 20″ wide or less and any length.

Work is quickly adjusted along T-square and clamped. The T-square is adjustable to any part of plate for squaring up work. Fits GORTON and all other Pantograph machines.

Dimensions: Complete as shown, being 18″ wide x 24″ long, with three 3/8″ T-slots milled from the solid, one T-square, two work clamps, and four bolts and nuts. Net weight 85 lbs.; boxed 115 lbs.

Note: Sometimes additional clamps are desired for this table, or for use on 8-2 Copy Holder. For one clamp only, as shown with table, complete with T-slot nut, **Order CP743.** Shipping weight 2 lbs. See price list.

BEVELED GROOVE HOLDERS FOR STANDARD COPY TYPE

Copy Holder No.	Grooves for Beveled Blanks	No. of Grooves	Total Width of Copy Holders	Total Length	Shipping Weight
4-1	1-1/4″	3	4-1/2″	16″	11 lbs.
159-1	1-1/4″	4	6″	22″	21 lbs.
***336-1**	1-1/4″	4	9″	24″	30 lbs.
337-1	1-1/4″	6	9″	24″	30 lbs.
***684-1**	2-1/4″	3	9″	24″	30 lbs.
5-1	3-1/2″	1	4-1/2″	16″	11 lbs.
6-1	4-1/2″	1	5-1/2″	16″	11 lbs.

* Has flat face on each side of holder to permit use as flat plate holder, as illustrated above. All other holders have grooves only. Two stops are supplied for each groove in all copy holders listed above, as shown in illustration, but no copy. Made of nickel semisteel castings with beveled grooves or T-slots machined from the solid. Carefully gauged to size.

EXTRA COPY STOPS for copy holders in all of the groove sizes listed above are carried in stock. When ordering, specify size of grooves.

FLAT PLATE COPY HOLDERS

8-2 — 10-1/2″ wide x 16″ long with four 3/8″ T-slots milled from the solid. Complete with two 22-1 Table Dogs as shown above. Shipping Wt. 23 lbs.

7270 Flat Copy Holder for Gorton P3-2 and 3-S Pantographs; size 16″ x 24″. No grooves or T-slots. Shipping Wt. Approx. 60 lbs.

316-1 — 18″ wide x 24″ long, like 8-2 above, but with three 3/8″ T-slots and two 22-1 Table Dogs. Construction similar to Table 209-1. Shipping Wt. 90 lbs.

COPY DIAL HOLDER

1107-1, for all 10″ and 16-1/4″ copy dials. Complete as shown with indexing pawl. Approx. Shipping Wt. 22 lbs.

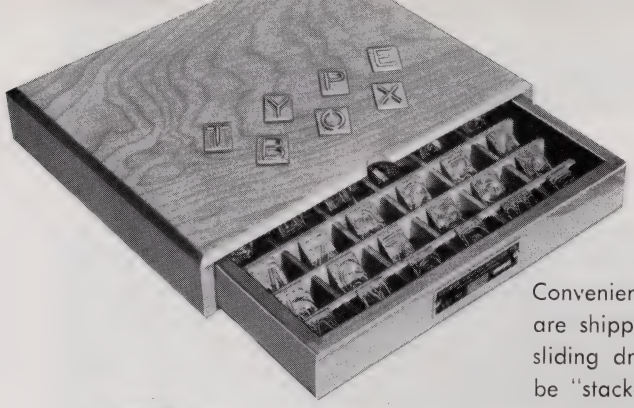
SERIAL NUMBERING HOLDERS AND COPY STRIPS

150-1, complete as shown with 7 copy strips 7/8″ wide. Each strip has ten index holes and an indexing plunger on holder engages same. Unless otherwise specified, each strip will be engraved 0 to 9 with GORTON face, 10-1 sunk V-groove numerals 3/4″ high. Any other face can be used in the same height provided it does not exceed the width of 10-1 numerals. GORTON condensed inclined Gothic or square Gothic may be used. Extra strips may be obtained at any time with any style numerals engraved thereon. Shipping Wt. 15 lbs.

448-1, same as 150-1 above, but each strip 1/2″ wide and engraved with EXTRA CONDENSED GOTHIC face 3/4″ high, 91-1. The faces listed for 150-1 holder above cannot be used with this unless they are engraved smaller than 3/4″ high. Shipping Wt. 10 lbs.

Note: Holders can also be furnished with numeral slot on a radius instead of straight as above.

Additional copy strips for either of above (set of 7). Write factory for prices.



COPY TYPE FURNISHED IN BOXES

Convenience — Protection — All Standard Type Sets on standard 1-1/4″ bodies are shipped in newly-designed box as shown. These boxes are fitted with easy sliding drawer with compartments for individual letters, spacers, etc. They can be "stacked" on top of each other in a minimum space with each drawer easily identified by type number metal plate on the front. Box also prevents accidental marring and protects accurately bevelled edges. Price of type set includes complete box.

K-5250 for medium, condensed, and extended 1-1/4″ bodies; box only, see price list.

GORTON

LUCKY IS HE WHO CAN ACCEPT HIS BROKEN SWORD FROM FATE THE CONQUEROR, WITH A MANLY AND A HUMBLE HEART.
ABCDEFGHIJKLMNOPQRSTUVWXYZ& .,;:" x - º 1234567890

Lucky Is He Who Can Accept His Broken Sword From Fate The Conqueror, With A Manly And A Humble Heart.
abcdefghijklmnopqrstuvwxyz&

GORTON NORMAL — capitals with matching lower case sets

Our most popular type face — universally accepted as standard — perfect proportions and simplicity make this the most used of all type faces. A minimum of sharp corners for rapid tracing with a smooth stroke . . . most adaptable to many uses.

Gorton lower case is especially designed for use with Gorton Normal Capitals but can also be used with either Gorton Extended or Gorton Condensed. All characters have identical center lines when of the same size. Height is measured from center line to center line on face of character. Matching Sets of Capitals and lower case are paired together as shown in the table. However, any Set listed, either Capitals or lower case, may be purchased singly.

Important — All lower case copy on pages 21, 22 and 23 is interchangeable with Capitals as indicated by repetition of Cat. No. Sets bearing the same Cat. No. are identical.

Where master copy type is subject to constant use on production work, we recommend the purchase of the brass type Sets, hard chromium plated; or steel type Sets, case hardened. Steel type on bodies larger than 1-1/4″ cannot be produced successfully due to warpage in heat treating.

Hard chromium plated Brass Master Copy Type Sets — Price: Two times catalog price. Steel, case hardened, Master Copy Type Sets — Price: Three times catalog price. For individual pieces and Special Masters, prices quoted on request.

Plain — **SUNK V-GROOVE** — **Reversed**

Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.
832-1	Caps	3/8″	1-1/4″	4-A	3 lbs.	**835-1**	Caps	3/8″	1-1/4″	4-A	3 lbs.
833-1	Lower	3/8″	1-1/4″	5-a	2 lbs.	**836-1**	Lower	3/8″	1-1/4″	5-a	2 lbs.
10-1	Caps	3/4″	1-1/4″	4-A	3 lbs.	**70-1**	Caps	3/4″	1-1/4″	4-A	3 lbs.
11-1	Lower	3/4″	1-1/4″	5-a	2 lbs.	**77-1**	Lower	3/4″	1-1/4″	5-a	2 lbs.
834-1	Caps	1″	1-1/4″	4-A	3 lbs.	**837-1**	Caps	1″	1-1/4″	4-A	3 lbs.
16-1	Caps	1-1/2″	2-1/4″	2-A	6 lbs.	**71-1**	Caps	1-1/2″	2-1/4″	2-A	6 lbs.
17-1	Lower	1-1/2″	2-1/4″	4-a	5 lbs.	**74-1**	Lower	1-1/2″	2-1/4″	4-a	5 lbs.
13-1	Caps	3″	3-1/2″	1-A	9 lbs.	**73-1**	Caps	3″	3-1/2″	1-A	9 lbs.
15-1	Caps	3″	4-1/2″	1-A	10 lbs.	**72-1**	Caps	3″	4-1/2″	1-A	10 lbs.
404-1	Lower	3″	4-1/2″	1-a	6 lbs.	**403-1**	Lower	3″	4-1/2″	1-a	6 lbs.

Plain — **SUNK SQUARE BOTTOM GROOVE** — **Reversed**

Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.
543-1	Caps	3/4″	1-1/4″	1-A	2 lbs.	**544-1**	Caps	3/4″	1-1/4″	1-A	2 lbs.

Plain — **RELIEF** — **Reversed**

Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.
262-1	Caps	3/4″	1-1/4″	1-A	2 lbs.	**261-1**	Caps	3/4″	1-1/4″	1-A	2 lbs.
868-1	Caps	3/4″	1-1/4″	4-A	7 lbs.	**871-1**	Caps	3/4″	1-1/4″	4-A	7 lbs.

TRUST IN GOD, BUT KEEP YOUR POWDER DRY.
ABCDEFGHIJKLMNOPQRSTUVWXYZ& .,;:" x - º 1234567890

GORTON CONDENSED — capitals and lower case

For general engraving. Next to Gorton Normal this type face is most widely used. Can be used in combination with Gorton Extended Capitals, Gorton Normal Capitals or Gorton lower case. The Gorton lower case Sets are listed in the tables below with the matching Gorton Condensed Sets. All characters have identical center lines when of the same size. Height is measured from center line to center line on face of character. Matching Sets of Capitals and lower case are paired together in the tables below. However, any Set listed, either Capitals or lower case, may be purchased singly.

Plain — **SUNK V-GROOVE** — **Reversed**

Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.
839-1	Caps	3/8"	1-1/4"	4-A	3 lbs.	**843-1**	Caps	3/8"	1-1/4"	4-A	3 lbs.
833-1	Lower	3/8"	1-1/4"	5-a	2 lbs.	**836-1**	Lower	3/8"	1-1/4"	5-a	2 lbs.
12-1	Caps	3/4"	1-1/4"	4-A	3 lbs.	**78-1**	Caps	3/4"	1-1/4"	4-A	3 lbs.
11-1	Lower	3/4"	1-1/4"	5-a	2 lbs.	**77-1**	Lower	3/4"	1-1/4"	5-a	2 lbs.
841-1	Caps	1"	1-1/4"	4-A	3 lbs.	**845-1**	Caps	1"	1-1/4"	4-A	3 lbs.
18-1	Caps	1-1/2"	2-1/4"	2-A	6 lbs.	**75-1**	Caps	1-1/2"	2-1/4"	2-A	6 lbs.
17-1	Lower	1-1/2"	2-1/4"	4-a	5 lbs.	**74-1**	Lower	1-1/2"	2-1/4"	4-a	5 lbs.
14-1	Caps	3"	3-1/2"	1-A	8 lbs.	**76-1**	Caps	3"	3-1/2"	1-A	8 lbs.
874-1	Caps	3"	4-1/2"	1-A	10 lbs.	**875-1**	Caps	3"	4-1/2"	1-A	10 lbs.
404-1	Lower	3"	4-1/2"	1-a	6 lbs.	**403-1**	Lower	3"	4-1/2"	1-a	6 lbs.

Plain — **RELIEF** — **Reversed**

Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.
264-1	Caps	3/4"	1-1/4"	1-A	2 lbs.	**263-1**	Caps	3/4"	1-1/4"	1-A	2 lbs.
876-1	Caps	3/4"	1-1/4"	4-A	8 lbs.	**879-1**	Caps	3/4"	1-1/4"	4-A	8 lbs.

"AND I IF I BE LIFTED UP FROM THE EARTH, WILL DRAW ALL MEN UNTO ME"
ABCDEFGHIJKLMNOPQRSTUVWXYZ& .,;:" x - º 1234567890

EXTRA CONDENSED GOTHIC — capitals only

This type face is third in popularity, being next to Gorton Condensed. Very narrow but quite legible. Suitable for engraving on the periphery of rollers, discs, numeral wheels, etc. All characters have identical center lines when of the same size. Height is measured from center line to center line on face of character.

Plain — **SUNK V-GROOVE** — **Reversed**

Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.
848-1	Caps	3/8"	1-1/4"	4-A	3 lbs.	**852-1**	Caps	3/8"	1-1/4"	4-A	3 lbs.
91-1	Caps	3/4"	1-1/4"	4-A	3 lbs.	**94-1**	Caps	3/4"	1-1/4"	4-A	3 lbs.
90-1	Caps	1-1/2"	2-1/4"	2-A	4 lbs.	**93-1**	Caps	1-1/2"	2-1/4"	2-A	4 lbs.
89-1	Caps	3"	4-1/2"	1-A	8 lbs.	**92-1**	Caps	3"	4-1/2"	1-A	8 lbs.

Plain — **RELIEF** — **Reversed**

Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.
97-1	Caps	3/4"	1-1/4"	1-A	2 lbs.	**100-1**	Caps	3/4"	1-1/4"	1-A	2 lbs.

NO GREAT MAN EVER MINDS STOOPING.
ABCDEFGHIJKLMNOPQRSTUVWXYZ& .,;:" ?-!$ 1234567890

INCLINED GOTHIC — capitals only

For any use requiring a face similar to Gorton Normal, but inclined. This is inclined 15 degrees. All characters have identical center lines when of the same size. Height is measured from center line to center line on face of character.

Plain — **SUNK V-GROOVE** — **Reversed**

Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.
291-1	Caps	3/4"	1-1/4"	4-A	3 lbs.	**302-1**	Caps	3/4"	1-1/4"	4-A	3 lbs.

A GOOD NAME IS RATHER TO BE
CHOSEN THAN GREAT RICHES,
ABCDEFGHIJKLMNOPQRSTUVWXYZ& .,;:'' x – º
1234567890

GORTON EXTENDED — capitals and lower case

Same style as Gorton Normal. Suitable for general engraving wherever greater width of character is required, otherwise Gorton Normal is preferable. Gorton lower case, see page 21, is designed especially for use with Gorton Normal, but may be used with Gorton Extended. Therefore, it is listed here. All characters have identical center lines when of the same size. Height is measured from center line to center line on face of character. Matching Sets of Capitals and lower case are paired together in the tables below. However, any Set listed, either Capitals or lower case, may be purchased singly.

Plain — **SUNK V-GROOVE** — **Reversed**

Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.
293-1	Caps	3/4″	1-1/4″	4-A	3 lbs.	305-1	Caps	3/4″	1-1/4″	4-A	3 lbs.
11-1	Lower	3/4″	1-1/4″	5-a	2 lbs.	77-1	Lower	3/4″	1-1/4″	5-a	2 lbs.
292-1	Caps	1-1/2″	2-1/4″	2-A	8 lbs.	304-1	Caps	1-1/2″	2-1/4″	2-A	8 lbs.
17-1	Lower	1-1/2″	2-1/4″	4-a	5 lbs.	74-1	Lower	1-1/2″	2-1/4″	4-a	5 lbs.

Plain — **RELIEF** — **Reversed**

Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.
319-1	Caps	3/4″	1-1/4″	1-A	3 lbs.	325-1	Caps	3/4″	1-1/4″	1-A	3 lbs.
889-1	Caps	3/4″	2-1/4″	1-A	3 lbs.	893-1	Caps	3/4″	2-1/4″	1-A	3 lbs.
398-1	Lower	3/4″	2-1/4″	1-a	2 lbs.	399-1	Lower	3/4″	2-1/4″	1-a	2 lbs.

1/16 1/8 3/16 1/4 5/16 3/8 7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16

GORTON FRACTIONS — sixteenths

Specially designed for use with Gorton Normal but can be used with any of the Gorton faces. All characters have identical center lines when of the same size. Height is measured from the top center line on the face of the upper characters to the bottom center line on the face of the lower characters.

Plain — **SUNK V-GROOVE** — **Reversed**

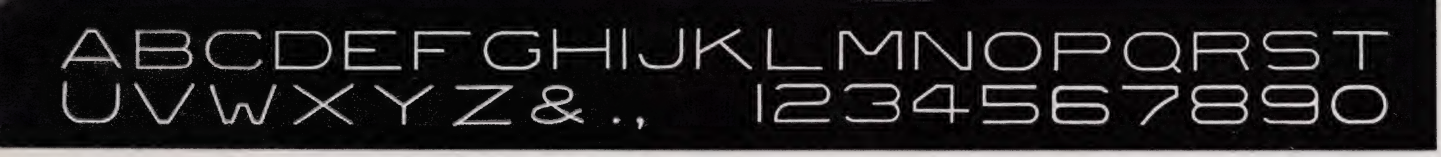
Cat. No.	Type Size	Body Size	Set Size	Ship. Wt.	Cat. No.	Type Size	Body Size	Set Size	Ship. Wt.
860-1	3/8″	1-1/4″	1 ea.	1 lb.	862-1	3/8″	1-1/4″	1 ea.	1 lb.
458-1	3/4″	1-1/4″	1 ea.	1 lb.	497-1	3/4″	1-1/4″	1 ea.	1 lb.

1/32 3/32 5/32 7/32 9/32 11/32 13/32 15/32 17/32 19/32 21/32 23/32
25/32 27/32 29/32 31/32

GORTON FRACTIONS — thirty-seconds

Plain — **SUNK V-GROOVE** — **Reversed**

Cat. No.	Type Size	Body Size	Set Size	Ship. Wt.	Cat. No.	Type Size	Body Size	Set Size	Ship. Wt.
864-1	3/8″	1-1/4″	1 ea.	1 lb.	866-1	3/8″	1-1/4″	1 ea.	1 lb.
457-1	3/4″	1-1/4″	1 ea.	1 lb.	496-1	3/4″	1-1/4″	1 ea.	1 lb.



STEEL STAMP SERIES — capitals only

The following series of faces were specially produced for making Steel and Brass Stamps by the Pantograph method. All characters have been carefully designed to give maximum opening to permit use of the largest possible tracing styles and cutters; and to obtain any desired bevel or width of face, and thus secure maximum strength in the finished stamp. The types are available in Relief only, Plain and Reversed. All have identical center lines when of the same size. Height is measured from center line to center line on face of character.

STEEL STAMP — extra extended

Plain						RELIEF						Reversed
Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	
669-1	Caps	3/4″	1-1/4″	1-A	3 lbs.	666-1	Caps	3/4″	1-1/4″	1-A	3 lbs.	
668-1	Caps	1-1/2″	2-1/4″	1-A	10 lbs.	665-1	Caps	1-1/2″	2-1/4″	1-A	10 lbs.	

STEEL STAMP — extended

Plain						RELIEF						Reversed
Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	
635-1	Caps	3/4″	1-1/4″	1-A	2 lbs.	638-1	Caps	3/4″	1-1/4″	1-A	2 lbs.	

STEEL STAMP — medium

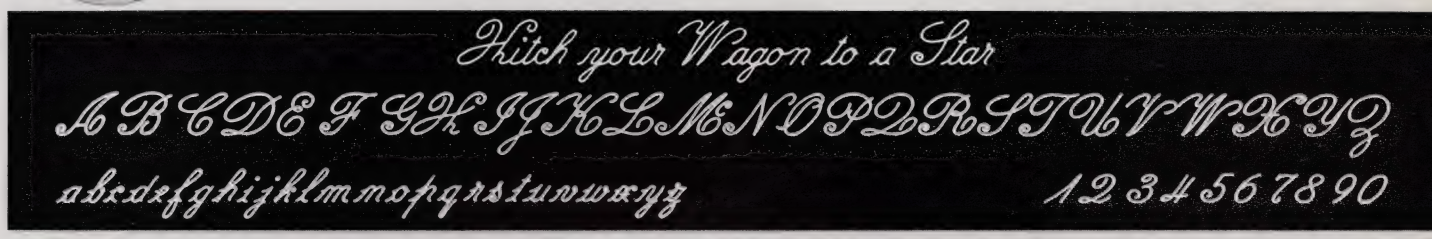
Plain						RELIEF						Reversed
Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	
642-1	Caps	3/4″	1-1/4″	1-A	2 lbs.	645-1	Caps	3/4″	1-1/4″	1-A	2 lbs.	
900-1	Caps	3/4″	1-1/4″	4-A	7 lbs.	901-1	Caps	3/4″	1-1/4″	4-A	7 lbs.	

STEEL STAMP — condensed

Plain						RELIEF						Reversed
Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	
649-1	Caps	3/4″	1-1/4″	1-A	2 lbs.	652-1	Caps	3/4″	1-1/4″	1-A	2 lbs.	
902-1	Caps	3/4″	1-1/4″	4-A	6 lbs.	903-1	Caps	3/4″	1-1/4″	4-A	6 lbs.	

STEEL STAMP — extra condensed

Plain						RELIEF						Reversed
Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	
656-1	Caps	3/4″	1-1/4″	1-A	2 lbs.	659-1	Caps	3/4″	1-1/4″	1-A	2 lbs.	
904-1	Caps	3/4″	1-1/4″	4-A	6 lbs.	905-1	Caps	3/4″	1-1/4″	4-A	6 lbs.	



SCRIPT — capitals and lower case

For use wherever the suggestion of handwriting is required, as engraving monograms, initials, signatures, inscribing gifts, etc. The Sets listed in the following table consist of 26 Capitals, 26 lower case, 10 numerals, total 62 pieces. All characters have identical center lines when of same size. Height is measured from center line to center line on face of character. The capitals or lower case may be ordered separately if desired. Prices on request.

Plain — **SUNK V-GROOVE** — **Reversed**

Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.
412-1	C & L	1″	2-1/4″	1-A-a	7 lbs.
413-1	C & L	2″	3-1/2″	1-A-a	21 lbs.

Not normally stocked. Will be furnished on special order only. Prices on request.

"FELLOW-CITIZENS: GOD REIGNS, AND THE GOVERNMENT AT WASHINGTON STILL LIVES."
ABCDEFGHIJKLMNOPQRSTUVWXYZ& . , 1234567890
Experience is the mother of science
a b c d e f g h i j k l m n o p q r s t u v w x y z

CENTURY — capitals and lower case

Designed for any use requiring type with serifs similar to average printer's type. While the capitals may be used alone as illustrated, the lower case requires the use of capitals. All characters have identical center lines when of the same size. Height is measured overall on face of character. Matching Sets of Capitals and lower case are paired together in the tables below. However, any Set listed, either Capitals or lower case, may be purchased singly.

Plain — **SUNK SQUARE BOTTOM GROOVE** — **Reversed**

Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.
297-1	Caps	3/4″	1-1/4″	1-A	2 lbs.	311-1	Caps	3/4″	1-1/4″	1-A	2 lbs.
299-1	Lower	3/4″	1-1/4″	1-a	2 lbs.	314-1	Lower	3/4″	1-1/4″	1-a	2 lbs.
296-2	Caps	1-1/2″	2-1/4″	1-A	7 lbs.	310-2	Caps	1-1/2″	2-1/4″	1-A	7 lbs.
298-2	Lower	1-1/2″	2-1/4″	1-a	6 lbs.	313-2	Lower	1-1/2″	2-1/4″	1-a	6 lbs.

Plain — **RELIEF** — **Reversed**

Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.
322-1	Caps	3/4″	1-1/4″	1-A	3 lbs.	328-1	Caps	3/4″	1-1/4″	1-A	3 lbs.
356-1	Lower	3/4″	1-1/4″	1-a	2 lbs.	359-1	Lower	3/4″	1-1/4″	1-a	2 lbs.

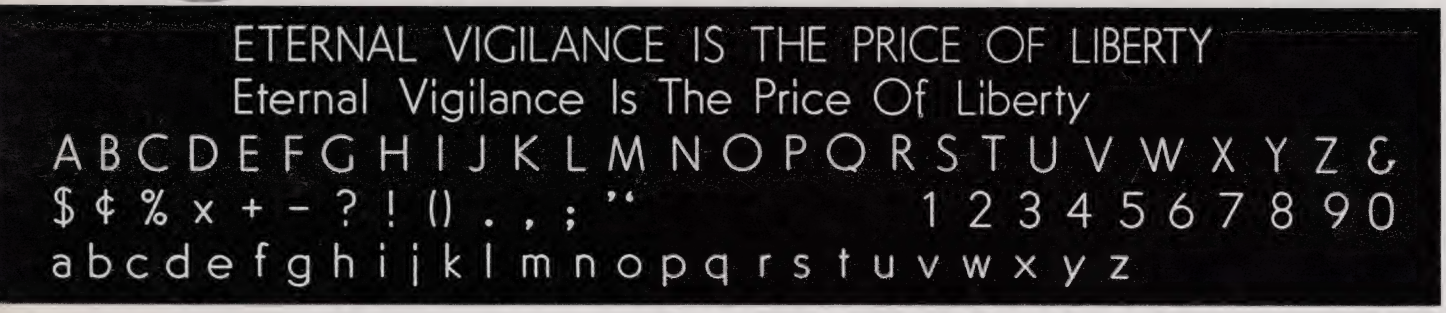
ENGRAVERS' OLD ENGLISH — capitals only

Useful for monograms and initials, especially on jewelry dies for rings, pins, bracelets, etc. All characters have identical center lines when of the same size. Height is measured overall on face of character.

Plain — **SUNK SQUARE BOTTOM GROOVE** — **Reversed**

Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.
460-1	Caps	3/4″	1-1/4″	1-A	2 lbs.	463-1	Caps	3/4″	1-1/4″	1-A	2 lbs.
461-1	Caps	1-1/2″	2-1/4″	1-A	4 lbs.	464-1	Caps	1-1/2″	2-1/4″	1-A	4 lbs.

SPECIAL TYPE FACES


ETERNAL VIGILANCE IS THE PRICE OF LIBERTY
Eternal Vigilance Is The Price Of Liberty
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z &
$ ¢ % x + - ? ! () . , ; " " 1 2 3 4 5 6 7 8 9 0
a b c d e f g h i j k l m n o p q r s t u v w x y z

MODERNE — capitals and lower case

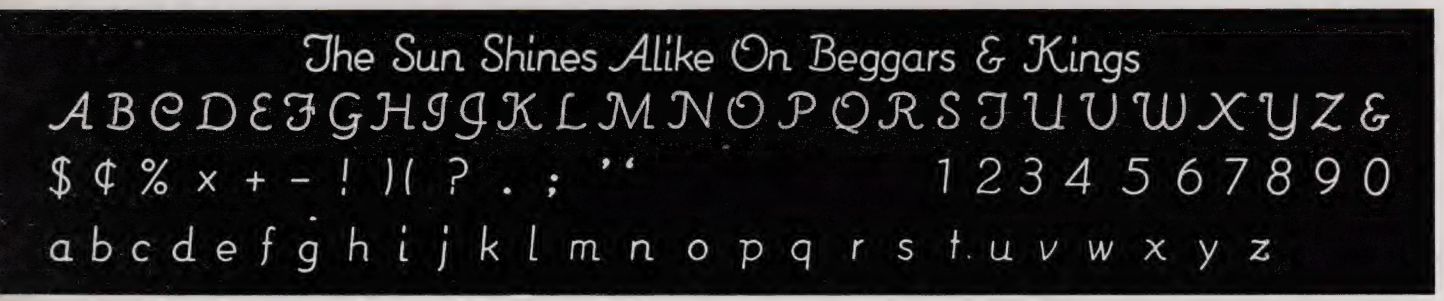
A modern face of strong, clean design. Possesses extreme legibility. Easy to trace on the Pantograph Machine. Capitals may be used alone, but the lower case requires the use of Capitals. All characters have identical center lines when of the same size. Height is measured from center line to center line on face of character. Matching Sets of Capitals and lower case are paired together in the tables below. However, any Set listed, either Capitals or lower case, may be purchased singly.

Plain						SUNK V-GROOVE						Reversed
Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	
910-1	Caps	3/4"	1-1/4"	4-A	3 lbs.	921-1	Caps	3/4"	1-1/4"	4-A	3 lbs.	
911-1	Lower	3/4"	1-1/4"	5-a	2 lbs.	922-1	Lower	3/4"	1-1/4"	5-a	2 lbs.	
915-1	Caps	3"	4-1/2"	1-A	10 lbs.	926-1	Caps	3"	4-1/2"	1-A	10 lbs.	
916-1	Lower	3"	4-1/2"	1-a	6 lbs.	927-1	Lower	3"	4-1/2"	1-a	6 lbs.	

HIMALAYA — capitals only

Engrave much in a little space with a modern touch. Himalaya has ample strength and grace to stand alone or to be used with other faces. All characters have identical center lines when of the same size. Height is measured from center line to center line on face of character.

Plain						SUNK V-GROOVE						Reversed
Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	
959-1	Caps	3/4"	1-1/4"	4-A	3 lbs.	964-1	Caps	3/4"	1-1/4"	4-A	3 lbs.	
962-1	Caps	3"	4-1/2"	1-A	8 lbs.	967-1	Caps	3"	4-1/2"	1-A	8 lbs.	



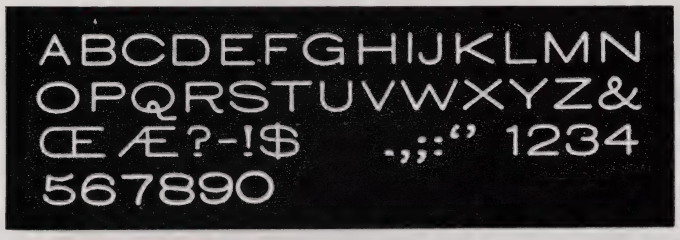
MODERNE CURSIVE — capitals with matching lower case sets

A beautiful Cursive face. Useful wherever the effect of script is desired. The Capitals cannot be used alone, therefore the Sets contain both Capitals and lower case. The Moderne Cursive lower case also matches the Moderne Italic. All characters have identical center lines when of the same size. Height is measured from center line to center line on face of character.

Plain						SUNK V-GROOVE						Reversed
Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	Cat. No.	Case	Type Size	Body Size	Set Size	Ship. Wt.	
951-1	C & L	3/4"	1-1/4"	2-A/5-a	4 lbs.	955-1	C & L	3/4"	1-1/4"	2-A/5-a	4 lbs.	
952-1	C & L	1-1/2"	2-1/4"	1-A/4-a	8 lbs.	956-1	C & L	1-1/2"	2-1/4"	1-A/4-a	8 lbs.	
953-1	C & L	3"	4-1/2"	1-A/1-a	16 lbs.	957-1	C & L	3"	4-1/2"	1-A/1-a	16 lbs.	

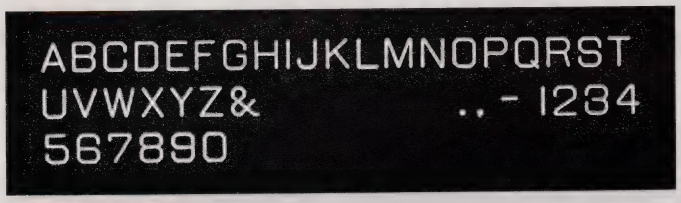
ANTIQUE TYPEWRITER. Available in Cat. No. 108-1, Sunk V-Groove; No. 119-1 Sunk Square Bottom Groove; and No. 120-1 Relief—Plain; and Reversed. Maximum Size: 3".

SPENCER. Cat. No. 142-1, Sunk V-Groove—Plain; and Reversed. Maximum Size: 3".



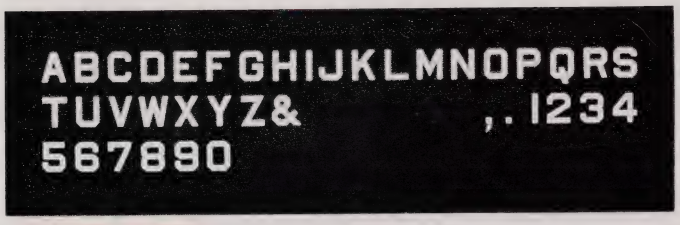
WEDDING GOTHIC. Cat. No. 134-1, Sunk V-Groove—Plain; and Reversed. Maximum Size: 3".

GOTHIC. Cat. No. 87-1, Relief—Plain; and Reversed. Maximum Size: 3".

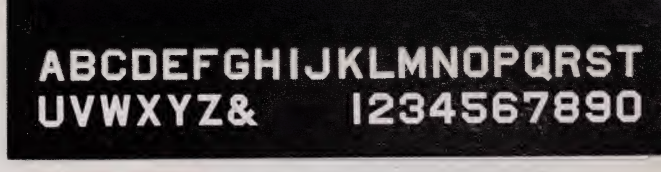


SQUARE GOTHIC. Cat. No. 285-1, Sunk V-Groove—Plain; and Reversed. Maximum Size: 3".

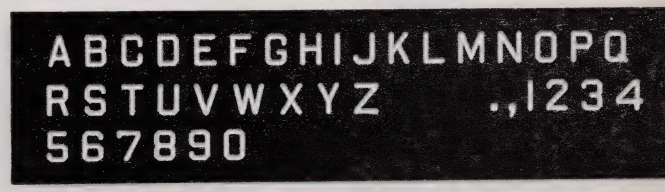
CHAMFER GOTHIC EXTENDED. Cat. No. 168-2, Sunk Square Bottom Groove—Plain; and Reversed. Maximum Size: 3".



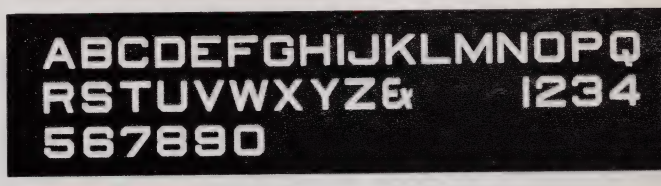
CHAMFER GOTHIC. Cat. No. 139-2, Sunk Square Bottom Groove—Plain; and Reversed. Maximum Size: 3".



CHAMFER GOTHIC. Cat. No. 149-1, Sunk Square Bottom Groove—Plain; and Reversed. Maximum Size: 3".



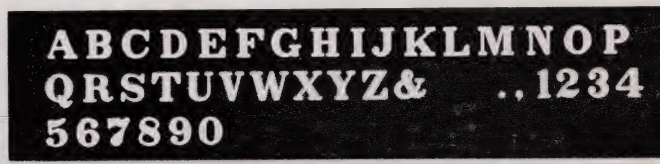
CHAMFER GOTHIC CONDENSED. Cat. No. 167-2, Sunk Square Bottom Groove—Plain; and Reversed. Maximum Size: 3".



CHAMFER GOTHIC. Cat. No. 169-1, Sunk Square Bottom Groove—Plain; and Reversed. Maximum Size: 3".

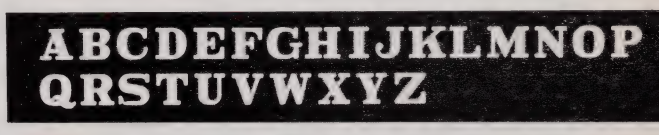
GOTHIC. Cat. No. 182-1, Sunk Square Bottom Groove—Plain; and Reversed. Maximum Size: 3".

STENCIL GOTHIC. Cat. No. 132-1, Sunk Square Bottom Groove—Plain; and Reversed. Maximum Size: 3".



ROMAN LEAD PATTERN. Available in Cat. No. 107-1, Sunk Square Bottom Groove; and No. 110-1 Relief—Plain; and Reversed. Maximum Size: 3".

ROMAN EXTENDED. Cat. No. 165-1, Sunk Square Bottom Groove—Plain; and Reversed. Maximum Size: 3".



ROMAN. Cat. No. 166-1, Sunk Square Bottom Groove—Plain; and Reversed. Maximum Size: 3".

SPECIAL TYPE FACES — made to order

While the Standard Type Faces listed on the preceding pages will be found satisfactory for the majority of general marking, etc., the above list of Special Faces enlarges the selection of styles available. The type styles shown on this page are not carried in stock but can be supplied quickly on order. Following each specimen plate is noted the form, or forms, and maximum size of that particular face. Prices will be quoted promptly on request.

When requesting information or ordering, PLEASE STATE: Style, Catalog No., Type and Body Size — Plain or Reversed and Set Size.

LET US STRIKE THE iron while it is hot.
ABCDEFGHIJKLMNOPQRSTUVWXYZ& 23456789 $\frac{1}{4}\frac{1}{2}\frac{3}{4}$
abcdefghijklmnopqrstuvwxyz .,;:!?" ()-_@¢$%#/

EGYPTIAN TYPEWRITER **Cat. No. 427-1.** Sunk V-Groove — Plain and Reversed. Maximum Size 3″.

ΑΒΓΔΕΖΗΘΙΚΛΜΝΞΟΠΡΣΤΤΦΧΨΩ
αβγδεζηθικλμνξοπρστυφχψω

GREEK ALPHABET **Cat. No. 430-1** for Caps — No. 482-1 for Lower Case — Sunk Square Bottom Groove — Plain and Reversed. Maximum Size 3″.

АБВГДЕЖЗИІКЛМНОПРСТУФХЦЧШЩЮЫЪЬЂЭЯЙѲѴ

RUSSIAN ALPHABET **Cat. No. 243-1.** Sunk V-Groove — Plain and Reversed. Maximum Size 3″.

SPECIAL TYPE FACES made to order

While the Standard Type Faces listed on the preceding pages will be found satisfactory for the majority of general marking, etc., these Special Faces enlarge the selection of styles available. The type styles shown on this page are not carried in stock, but can be supplied quickly on order. Following each specimen plate is noted the form, or forms, and maximum size of that particular face. Prices will be quoted promptly on request.

When requesting information or ordering, PLEASE STATE: Style, Cat. No., Type and Body Size — Plain or Reversed.

SPECIAL NUMERALS made to order FOR CLOCKS AND INSTRUMENT DIALS

1234567890

671-1. 3″, Sunk Square Bottom Groove—Plain. On 4-1/2″ beveled brass bodies. Height is measured overall on face of character. Shipping Wt. 4 lbs.

672-1. Same as 671-1 but 3/4″ on 1-1/4″ beveled brass bodies. Shipping Wt. 1/2 lb.

1234567890

109-1. 6″, Sunk Square Bottom Groove — Plain. On 4-3/4″ x 7″ brass bodies. Height is measured overall on face of character. Shipping Wt. 10 lbs.

606-1. Same as 109-1 but 3/4″ on 1-1/4″ beveled brass bodies. Shipping Wt. 1/2 lb.

Complete specifications on any of the following sets will be sent on request.
PLEASE STATE: Cat. No., Type, and Body Size — Plain or Reversed.

1234567890

162-1 — Relief Only

1234567890

760-1 — Sunk V-Groove

1234567890

829-1 — Sunk V-Groove

1234567890

762-1 — Sunk V-Groove

I II III IV V VI VII VIII
IX X XI XII L C D M

416-1 — Sunk V-Groove

1234567890

761-1 — Sunk V-Groove

MASTER COPY DIALS

Unless otherwise specified, each index notch will be located in line with the center of each character or group of characters, as can be seen on dials shown. Copy dials can be supplied with any desired number of indexing notches; write factory for prices.

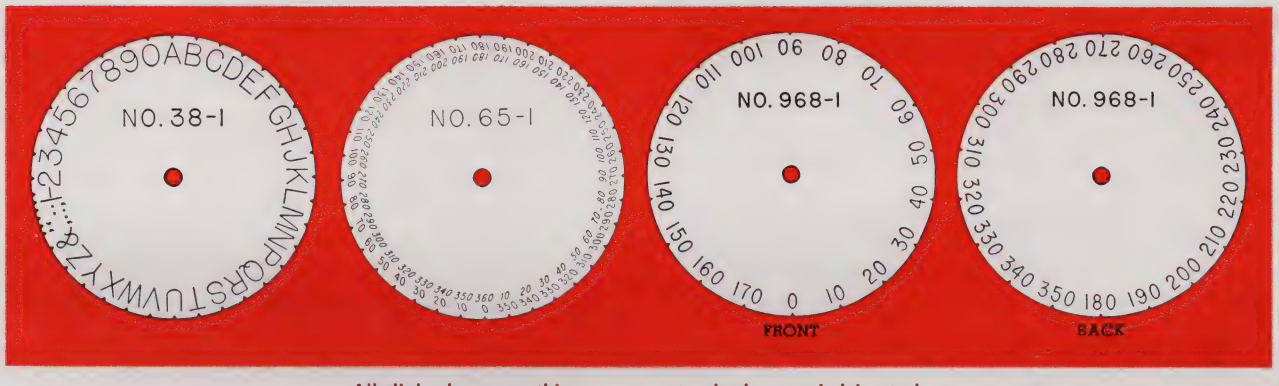
38-1. GORTON NORMAL FACE. 3/4", Sunk V-Groove — Plain. Height is measured from center line to center line on face of character. One 10" dial, fitting Dial Holder 1107-1, complete with center stud. Shipping Wt. 4 lbs.

406-1. GORTON CONDENSED FACE. 3/4", Sunk V-Groove — Plain. Same as 38-1 except for style of face. Height is measured from center line to center line on face of character. One 10" dial, fitting Dial Holder 1107-1, complete with center stud. Shipping Wt. 4 lbs.

600-1. EXTRA CONDENSED GOTHIC FACE. 3/4", Sunk V-Groove — Plain. Same as 38-1 except for style of face. Height is measured from center line to center line on face of character. One 10" dial, fitting Dial Holder 1107-1, complete with center stud. Shipping Wt. 4 lbs.

968-1. Used for engraving micrometer dials and similar work. **GORTON CONDENSED FACE** Numerals. 1/2" Sunk V-Groove — Plain. Height is measured from center line to center line on face of character. One 10" dial with numbers on both sides, as illustrated, fitting Dial Holder 1107-1, complete with center stud. Shipping Wt. 4 lbs.

65-1. Used for transit limbs and similar instrument work. Numerals only. 1/4", Sunk V-Groove — Plain. Height is measured from center line to center line on face of character. One 10" dial, fitting Dial Holder 1107-1, complete with center stud. Shipping Wt. 4 lbs.



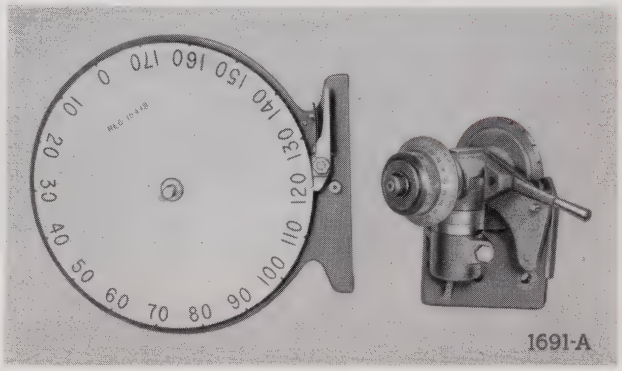
All dials shown on this page are standard — carried in stock.

DIAL SIZES: Our standard size copy dial is 10" diameter x 5/64" thick and fits Dial Holder 1107-1. See Page 20.

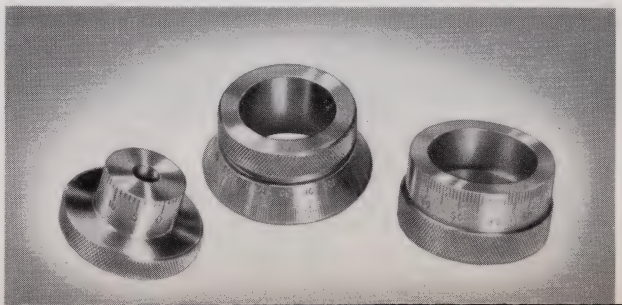
STANDARD AND SPECIAL DIALS. Standard dials are engraved with the Standard Type Faces as shown and are carried in stock. Special dials are made with any special characters, numbers, trade marks, or designs required. We have every facility for producing special dials promptly and economically and will be glad to quote on your requirements.

All above copy dials are available with characters in reverse at a slight additional cost. When ordering dials with reverse characters use number and name and add **"NOTE: characters to be in reverse."**

INDEXING WORK HOLDERS. For engraving dials, cylinders, and other similar parts, you will need a cylindrical indexing work holder. See Page 32.



Copy dial with holder and cylindrical indexing work holder.



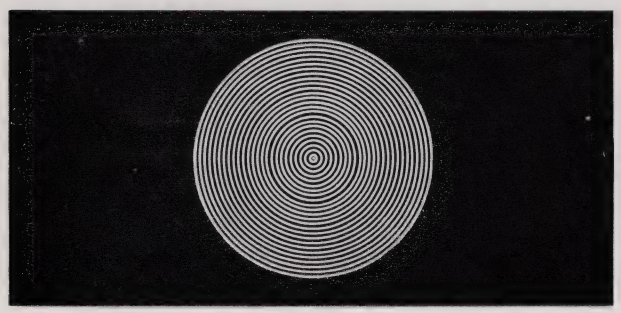
Three samples of work produced on above equipment.

SPECIAL SIGNS AND SYMBOLS

GORTON

ENGRAVERS' BRASS OF PROPER ALLOY

The signs, symbols, and miscellaneous copy illustrated below are stocked only in sizes, and on bodies, as listed. Other sizes can be furnished to special order, on any of the standard strips, dials, sheets, or beveled bodies.



GRADUATED CIRCLES

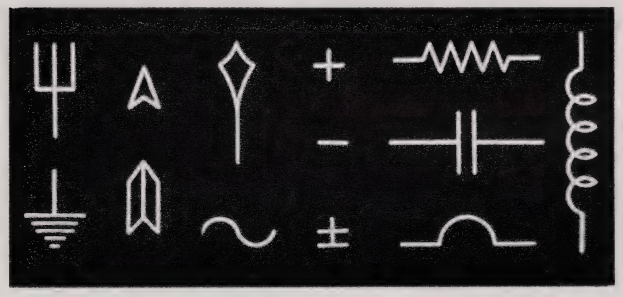
8481. Outside circle 6″ diameter; inside circle 1/4″ diameter. Intermediate circles 1/16″ apart. Sunk V-Groove. On 7″ square sheet brass 1/16″ thick. For cutting true radii on letters and designs without the use of a circular table.

3-LINE MONOGRAM COPY

Sunk V-Groove — Plain only. This copy type is ideally suited for engraving initials on gifts such as compacts, lighters, etc. One set consists of 26 capitals only.

1127-1, 3/4″ on 1-1/4″ bodies. Shipping weight 2 lbs.
Extra characters, see price list.

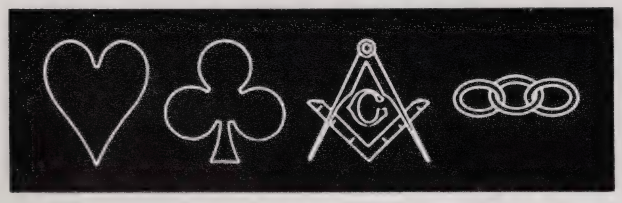
1128-1, 1-1/2″ on 2-1/4″ bodies. Shipping weight 7 lbs.
Extra characters, see price list.



ELECTRICAL SYMBOLS

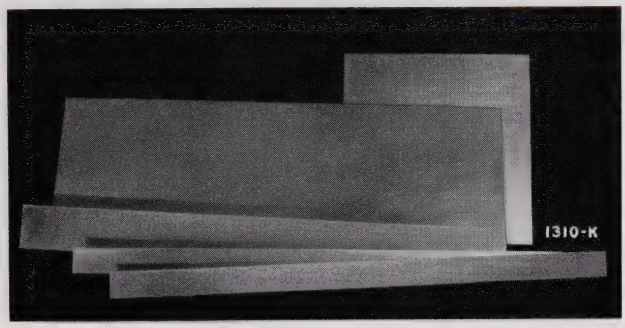
977-1. 3/4″, Sunk V-Groove — Plain. Each of the symbols is engraved on its individual 1-1/4″ beveled body. Height is measured from center line to center line on face of character. Shipping weight 4 lbs.

Any symbol shown above, see price list.



STANDARD DESIGNS

We can furnish masters for many similar designs and emblems — write factory for prices.



ENGRAVERS' BRASS — BEVELED STRIPS

These strips are 24″ long, with squared ends, and each edge beveled 20 degrees to fit our standard Typeholders. Widths given are overall and are held within .001″. Ends are sawed and bevels planed smooth.

Cat. No.	Width	Thickness
14580	1-1/4″	1/16″
14581	1-1/4″	1/8″
14582	2-1/4″	1/16″
14583	2-1/4″	1/8″
14584	3-1/2″	1/16″
14585	3-1/2″	1/8″
14586	4-1/2″	1/16″
14587	4-1/2″	1/8″

ENGRAVERS' BRASS — SQUARE SHEETS

These sheets are sawed square to within minus 1/32″ of square size given.

Cat. No.	Square Size	Thickness
K-3384	16-3/8″	1/10″
K-3385	16-3/8″	3/16″
K-3386	10-1/4″	.080″
K-3387	24″	1/8″

*ENGRAVERS' BRASS — PLAIN STRIPS

Strips are all 24″ long.

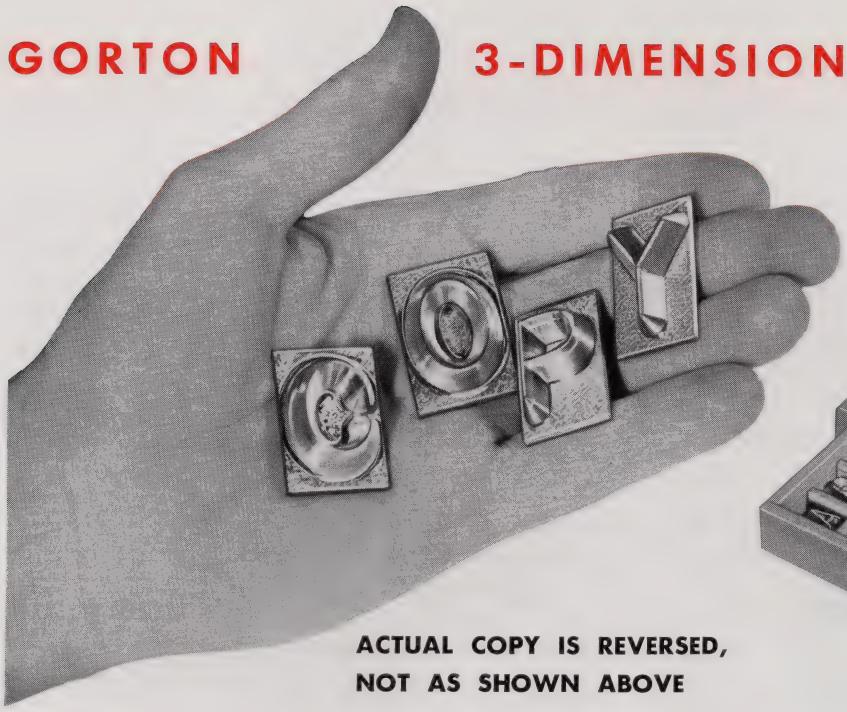
1/32″ Thick		1/16″ Thick		1/8″ Thick	
Cat. No.	Width	Cat. No.	Width	Cat. No.	Width
		K-3361	9/16″	K-3376	9/16″
		K-3363	13/16″	K-3377	11/16″
		K-3364	1-5/16″	K-3378	13/16″
		K-3365	2-5/16″	K-3379	1-5/16″
		K-3366	3-9/16″	K-3380	2-5/16″
K-3359	4-1/2″	K-3367	4-9/16″	K-3381	3-9/16″
		K-3368	6″	K-3382	4-9/16″
		K-3369	7″		
K-3360	8″	K-3370	8″	K-3383	8″
		K-3371	9″		
		K-3372	10″		
		K-3373	12″		

*NOTE: For all Engravers' Brass listed no orders will be accepted for less than $5.00 because of boxing and handling costs which are included in above prices. On Strip Brass, only 24″ lengths furnished.

GORTON 3-DIMENSIONAL TYPE

(PATENT PENDING)

For use with three-dimensional Pantograph Machines only. Produces completely finished relief letters for steel stamps, dies, molds and type. Eliminates hand finishing.



ACTUAL COPY IS REVERSED, NOT AS SHOWN ABOVE

This copy is made of durable plastic material and is available with characters reading in reverse only. A 4-A Font consists of 78 capitals, 30 numerals, 15 punctuation marks, and 10 special characters, a total of 133 pieces complete in partitioned case with cover as shown. Height of copy is measured from center line to center line on face of copy. Side wall angles can be varied from 35 to 55 degrees from vertical by changing the angles on tracing stylus and cutter accordingly.

Set K-4694 has round top 3 and closed 4 only.
Set K-4729 has round top 3 and closed 4 only.
Set K-4695 has flat top 3 and open 4 only.
Set K-4731 has round top 3 and closed 4 only.
Set K-4697 has flat top 3 and open 4 only.

Minimum charge for individual characters for each size and style ordered — see price list.

COPY HOLDER ADAPTERS

A special Copy Holder Adapter (not shown) must be used for holding this copy type. It has three grooves running lengthwise and spaced proportionately to the copy height. Ample clamping surface is provided for clamping on standard 8-2 copy holder (can also be clamped on any of the standard copy holders). Overall size 4-1/2" x 16".

T1139-1 Copy Holder for 1/2" high copy type, complete with 6 copy stops. Approximate shipping weight 18 lbs.

ABCDEFGHIJKLMNO&1234567

THREE-DIMENSIONAL — EXTENDED

Cat. No.	Case	Type Size	Set Size	Ship. Weight
K-4694	Caps	1/2"	4-A	4 lbs.

ABCDEFGHIJKLMNOPQR & 1233445

THREE-DIMENSIONAL — MEDIUM

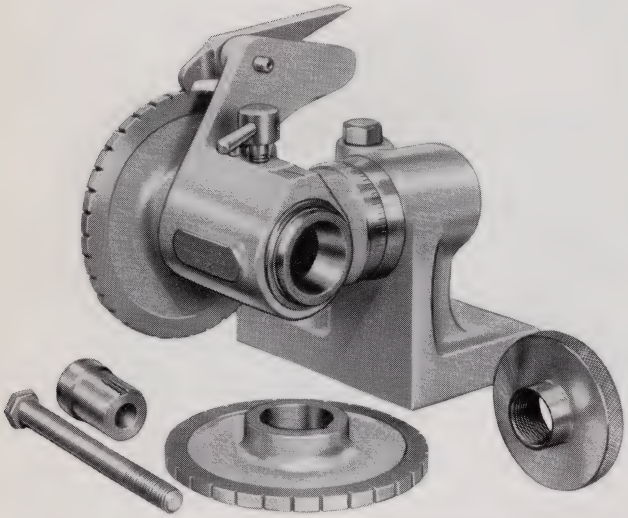
Cat. No.	Case	Type Size	Set Size	Ship. Weight
K-4729 K-4695	Caps	1/2"	4-A	4 lbs.

ABCDEFGHIJKLMOPQRSTUVWXYZ & 123344567

THREE-DIMENSIONAL — CONDENSED

Cat. No.	Case	Type Size	Set Size	Ship. Weight
K-4731 K-4697	Caps	1/2"	4-A	4 lbs.

GORTON INDEXING WORK HOLDER



256-3

INDEXING WORK HOLDER 256-3

256-3 for all GORTON, or other make, Pantograph and Milling Machines. This holder will hold and index for milling or engraving numeral wheels, roll stamps, beveled dials, collars, rings, etc., 1/4" to 6" diameter and any width of face. Work is mounted on simple fitting and held on nose of hollow spindle with drawbar and adapter furnished. Knurled nut is also furnished for work with 4NS spring draw collets. (See Page 13.) This holder has swivel joint as shown, graduated to 90 degrees, allowing work spindle to swivel and be clamped in any position from vertical to horizontal.

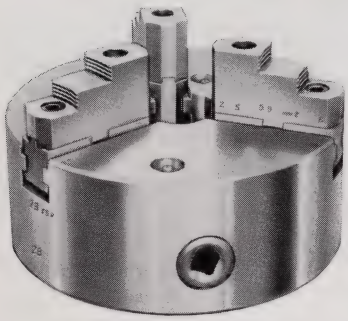
Complete as shown with 4" diameter index dial having 10 notches, unless otherwise ordered. Index dials can be furnished from stock with any desired number of notches, from 1 to 15, at no extra charge. Be sure to specify exact number of notches required. Dials are quickly changed by removing nut. Base has two 3/8" holes for hold-down bolts.

Spindle is hardened and ground and provided with quick clamping lever and indexing pawl as shown. Net weight 11 lbs., boxed 18 lbs.

EXTRA DIALS

Index dials available up to and including 50 notches. For dial numbers, see price list.

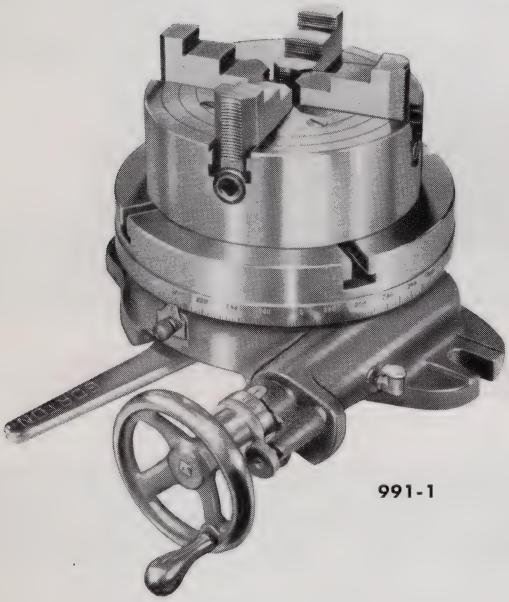
1216-1, Three-Jaw Chuck with adapter for use with the 256-3 Indexing Work Holder described above. Capacity 0" to 2-7/8" dia., shipping weight 5 lbs.



1022-1

ROTARY TABLE CHUCK 1022-1 THREE JAW

CHUCK 1022-1, ideal for use with the 10", 12", 15", and 16" rotary tables. This 8" diameter steel body Universal chuck is easily fastened to the tables with a special centering plug and four bolts furnished with chuck. Three reversible jaws, each with four chucking surfaces, have a maximum capacity of 8-1/4" diameter and a minimum of 5/8". Height of jaws, top to bottom 2-7/16", top to face of chuck 1-7/16". Hole for long stock, 1-3/4" diameter. This chuck is adapted to production and manufacturing work as well as die and stamp cutting on round work and bar stock. Weight boxed 39 lbs.



991-1

ROTARY TABLE CHUCK 991-1 FOUR JAW

CHUCK 991-1, ideal for use with 10", 12", 15", and 16" rotary tables. This 8" diameter steel body independent chuck is easily fastened to the tables with a special centering plug and four bolts furnished with chuck. Four reversible jaws, each with four chucking surfaces, have a maximum capacity of 8-1/4" diameter and a minimum of 5/8". Height of jaws, top to bottom 2-7/16", top to face of chuck 1-7/16". Hole for long stock, 1-3/4" diameter. This chuck is adapted to production and manufacturing work as well as die and stamp cutting on round work and bar stock. Weight boxed 45 lbs.

Illustration at left shows the 991-1 chuck mounted on Gorton 12" Rotary Table; see pages 34 and 35 for descriptions of Gorton Rotary Tables.

. . . . ROTARY TABLES AND CHUCKS

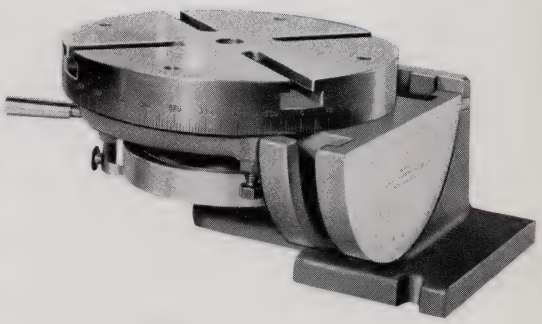
K-687

6" UNIVERSAL TABLE 204-1

204-1, designed for general all-around small instrument and tool work. Work table is 6" diameter, accurately graduated to 360 degrees; has four 3/8" T-slots milled from solid. Can be revolved by hand and clamped in position by lever. ½" hole in center of table permits centering work; bottom of hole is tapped ½" N.C. for holding down work with screw or drawbar. Overall table height (horizontal position) 3-7/8". Four holes in table top are tapped 1/4" N.C. for use in attaching Universal Chuck 685-2 listed below.

SWIVEL, graduated through 90 degrees, permits table to be set at any angle from vertical to horizontal and revolved while in these positions. Front edge of base is machined for squaring up work with machine table.

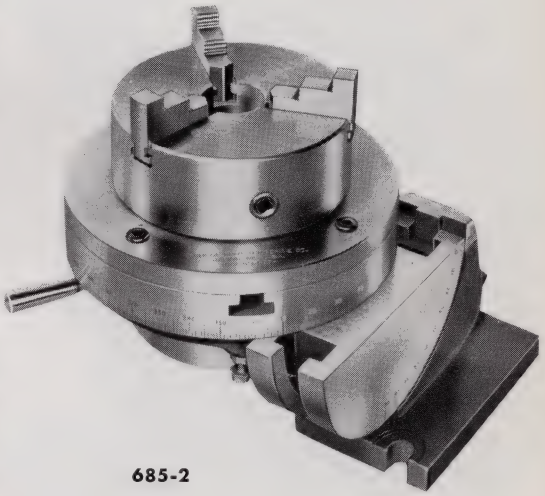
INDEX DIAL on bottom of spindle on which table rotates; desired graduations or index points for letter cutting can be laid out with pencil lines on paper band and clipped around spindle, then indexed by means of pawl. Index dials can be furnished with any desired number of notches on special order at slight additional cost but such work can best be done with Work Holder 256-3 on Page 32. Table complete as shown with index band holder, clamp, 25 index bands. Shipping weight 25 lbs.



204-1

685-2 UNIVERSAL CHUCK AND ADAPTER

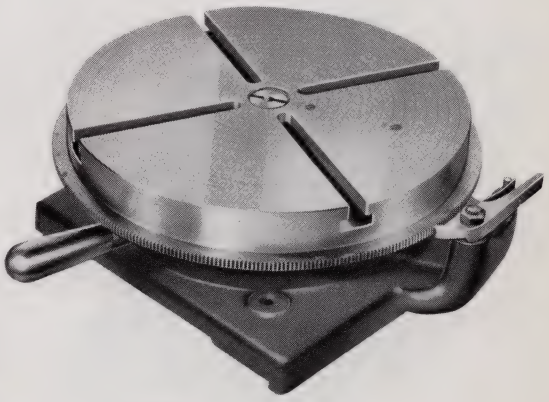
685-2, 4" Universal Chuck and adapter only, similar to Chuck 991-1 shown at left except 3-jaw-type, furnished with two sets of three jaws and a special face plate 6" diameter for attaching to Universal Rotary Table 204-1. (See mounted chuck at right.) This chuck and face plate are accurately centered on 204-1 table by means of a center boss which mates with hole in center of table and secured by means of the four tapped holes in table top described above. This chuck has hand-fitted parts, hardened steel bearings, and jaws tested for accuracy. Height of jaws, top to bottom 1-1/8", top to face of chuck 45/64". Hole for long stock, 1-1/8" diameter. Shipping weight 6 lbs.



685-2

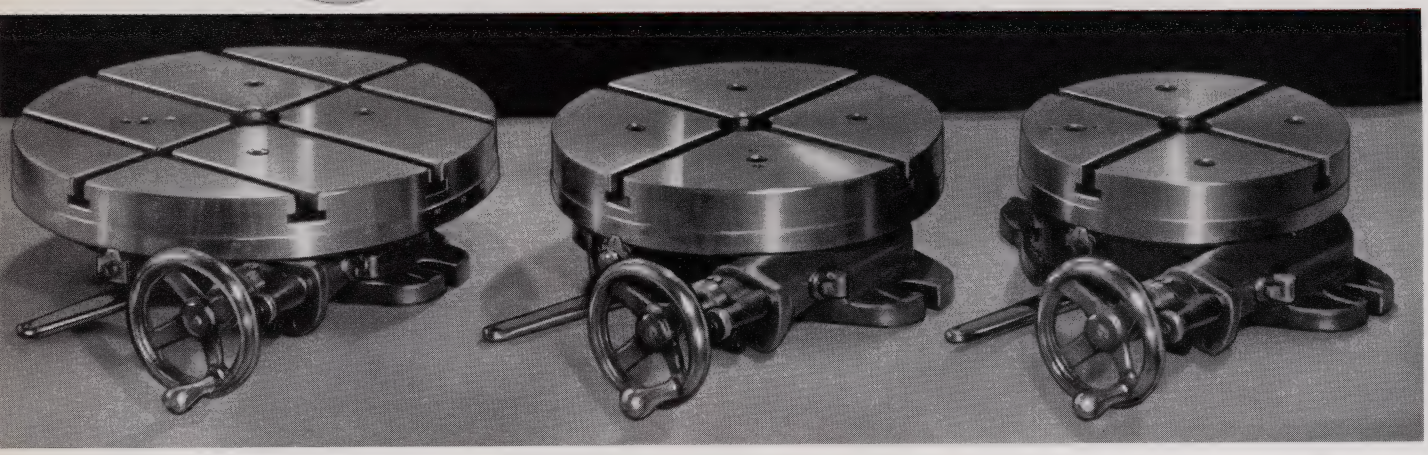
9" ROTARY INDEX TABLE 335-1

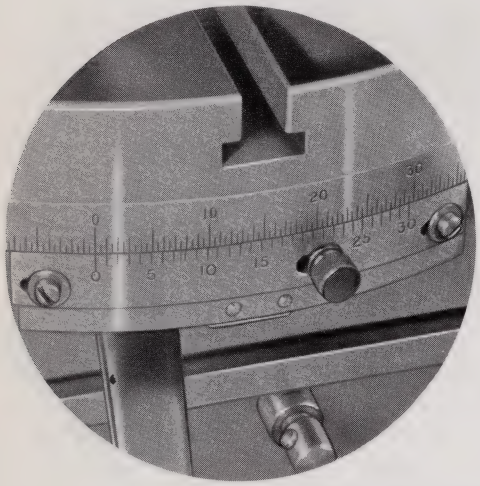
335-1 for all Pantograph or Milling Machines. Table working surface is 9-1/4" diameter with four 3/8" T-slots milled from solid. Overall table height 3-1/2". Outer rim extends 3/8" beyond base of table and is accurately notched with 360 notches; engraved numbers at every tenth notch, 0 to 350 degrees. Table can be turned by hand and held with indexing pawl in any one of the 360 notches, or clamped in addition with hand lever for heavier cutting. Table has center hole threaded 1" N.C. for centering or clamping work if desired. Shipping weight 50 lbs.



335-1

GORTON HIGH VALUE ROTARY TABLES .





Adjustable vernier attachment —see description at right.

THOUSANDS NOW IN USE

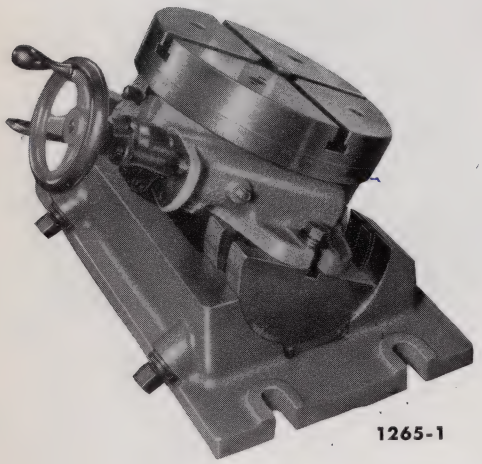
These rotary tables represent three of the greatest values in the entire Gorton line of small tools and accessories. Compare the following specifications and prices in the accompanying price list.

Each table features: precision ground table top, positive adjustments of all vital parts — from the outside; graduated in half-degrees; adjustable index finger; hardened and ground center bushing, facilitating set-ups; machined T-slots held to close limits; all bearings hand scraped or ground; adjustable dial vernier graduated to 5 minutes on worm wheel; accuracy is assured throughout its life with provisions which compensate for wear on table bearing and worm shaft; mechanical parts are dust and chip proof, totally enclosed and running in oil; worm can be disengaged to permit hand rotation for quick set-ups.

Here are three popular all-purpose rotary tables, sturdy enough for production work at prices made possible through volume production over a period of years.

VERNIER ATTACHMENT *at Left*

This can be built into the 10″, 12″, or 15″ rotary tables, described above, at the factory to provide precision settings to one minute. Vernier segment is adjustable and large enough to permit easy readings.



1265-1

TABLE SPECIFICATIONS

All tables are 4-7/16″ high with 1/2″ T-slots and 1-5/8″ I.D. center bushing.

WEIGHT	10″ Dia.	12″ Dia.	15″ Dia.
NET	80 lbs.	100 lbs.	110 lbs.
SHIPPING	95 lbs.	127 lbs.	145 lbs.

ORDER BY NUMBER

STANDARD TABLES		TABLES WITH VERNIER ATTACHMENT	
755-2	10″ Dia.	**755-3**	10″ Dia.
756-2	12″ Dia.	**756-3**	12″ Dia.
215-2	15″ Dia.	**215-3**	15″ Dia.

TILTING BASE FOR ABOVE TABLES

1265-1 Tilting Base. A variety of beveled radii can be machined with this handy base — any of the above tables can be mounted on it quickly. It is sturdy with accurate trunnions graduated and positioned with a vernier. Angular

settings from a flat plane 0° to 60° are possible. Husky locks insure positive settings.

1115-1

16" ROTARY TABLE

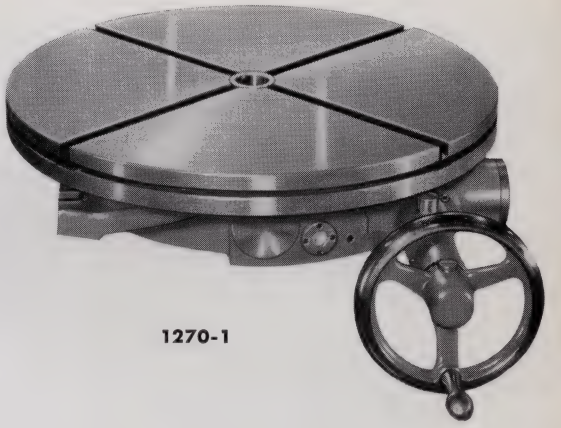
1115-1 Rotary Table. This is designed for exacting work and rotates on precision preloaded tapered roller bearings. A hardened center bushing and 11/16" T-slots facilitate set-ups. This table can be operated by hand or power with a neutral and reversing provision built in. To assure ample lubrication under all operating conditions, a large oil reservoir, convenient filler plug, and oil level sight gauge are provided. For power operation on Gorton 2-28, 3-34, or 3-48 mills, a power take-off unit, 1116-1, is required.

20 AND 24-INCH TABLES

These larger diameter rotary tables have the same desirable characteristics and design features as the 16" rotary table described above. Ample bearing surfaces support these two tables, thereby insuring desired accuracy.

1270-1 20" Dia., Rotary Table

1271-1 24" Dia., Rotary Table



1270-1

16, 20 AND 24-INCH POWER DRIVEN TABLES

Here is a self-contained power unit which can be ordered with either a 16, 20, or 24-inch rotary table. It is equipped with variable or constant feed drive. Table works and power unit are mounted on a common platen. These units are designed and built on special order, depending upon customer's requirements. Write factory for prices, giving range of R.P.M. desired. Quotation will be made promptly.

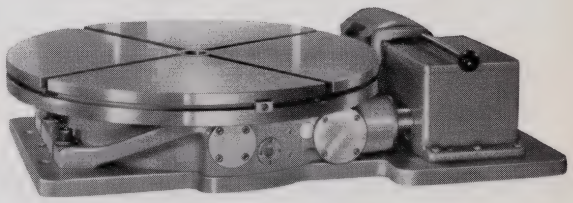
CROSS-COMPOUND ROTARY TABLE 1121-1

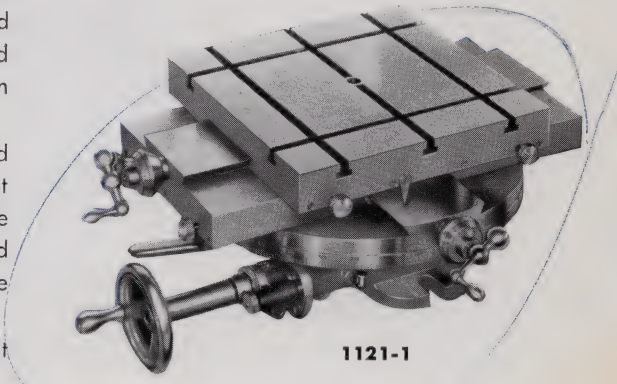
This tool is designed for die, mold, general tool room work, milling, boring, or any phase of contour milling for short run production. It saves time and reduces costs by eliminating the usual layout procedure. With the cross-compound table, you can employ the center line method where cutting is done directly on the work in accordance with dimensions on the prints.

Construction is rugged, assuring long life and trouble-free service. Hand scraped wide dovetail ways with adjustable gibs interlock the 15" dia. rotating base, the 18" saddle, and 12" square table. The work table has a .625" I.D. centering bushing for locating and set-up. Five 3/8" T-slots shown are accurately machined in the table top. Table and saddle screws are of ample size and have adjustable dials graduated in thousandths. An accurate worm and worm wheel provide rotation by hand wheel. Rotating base is graduated and engraved the full 360°. An adjustable index finger is provided and worm can be disengaged for rapid rotation during initial positioning and set-up.

A convenient adjustable dial vernier, graduated to read to 5 minutes, is located on the worm shaft ahead of the handwheel. A locking lever which will not change settings when applied is located in front of operator. Table and saddle each have 6" travel; 3" each side of center. Scales and verniers are provided in addition to the graduated dials on table and saddle feed screws to make accurate settings to .001".

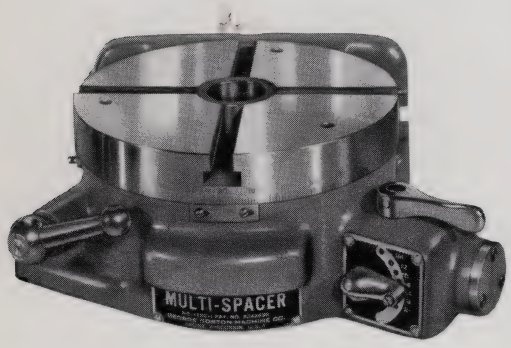
1121-1 Cross-Compound Table; height 7-1/4", approx. shipping weight 300 lbs.





1121-1

NEW MULTI-SPACER INDEXING FIXTURE



1122-1

1122-1 GORTON MULTI-SPACER

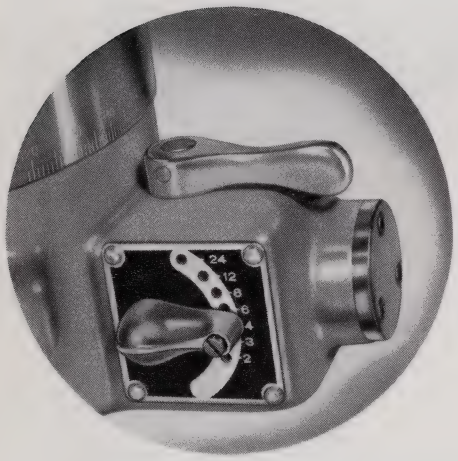
Here is an accurate and versatile tool for all types of milling, drilling, boring, slotting, and grinding operations where fast, positive, and accurate selective indexing is required.

The Gorton Multi-Spacer was designed primarily to provide all the refinements and desirable features which could be incorporated in a production fixture of this type.

MOST EXCLUSIVE FEATURE IS PATENTED

(No. 2,342,539; other Patents Pending)

The patented built-in automatic selector permits you to pre-select any of seven different indexing positions by setting the convenient automatic selector for 2, 3, 4, 6, 8, 12, or 24 positions. There is no need to remove fixture from machine table to change from one selector plate to another. Fixture and work remain clamped to table while changing, for example, from 4 to 12 indexing positions.

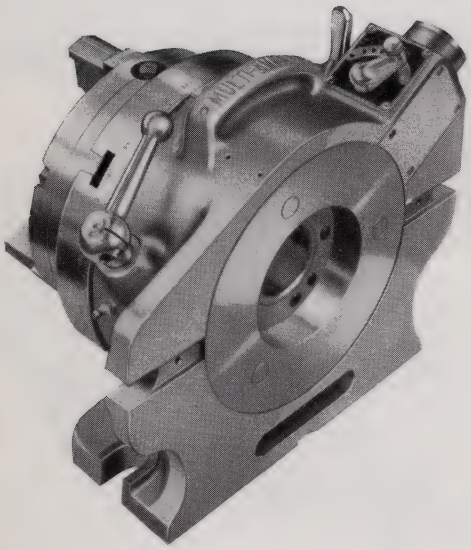


VARIETY OF INDEXING RANGES ARE AVAILABLE

Several indexing ranges are available with a maximum of 48 positions. Examples: If fixture has a maximum of 48 positions, built-in indexing would be 3, 4, 6, 8, 12, 16, 24, or 48. For 40 positions, indexing would be 2, 4, 5, 8, 10, 20, or 40. For 36 positions, indexing would be 2, 3, 4, 6, 9, 12, 18, or 36. These ranges are not standard but can be ordered, one or the other at slight extra cost.

OPERATION IS EASY

All indexing selections within the range of the Multi-Spacer can be pre-selected with the automatic selector. There is no need to install the correct selector plate. Spacing is automatic by simply pressing the release lever which releases the spring loaded indexing plunger. Rotate table and release lever; when next position is reached, the plunger will immediately lock fixture table firmly in place, ready for the next operation.



STURDY — SIMPLE — ACCURATE

The Gorton Multi-Spacer is of sturdy design and accurately constructed. Indexing accuracy is provided by a precision master index plate which is hardened and ground. A husky master index plunger which is used only for locating is also a precision ground component. This unit has oversize bearing surfaces with the entire working mechanism sealed against chips and other foreign matter.

The 9″ diameter table is supported by a sturdy, right-angle base casting, which permits either vertical or horizontal job set-up. Table top is ground and has two 9/16″ T-slots at right angles to each other. A hardened bushing with a 1.625″ I.D. centering hole plus three tapped holes for mounting an 8″ three-jaw universal chuck adds to user convenience. Periphery of table is accurately graduated in 360°. Disengaging the release lever permits table to be rotated and locked in any position for miscellaneous work.

COMPACT — SELF-CONTAINED

The Gorton Multi-Spacer is a compact, completely self-contained unit which eliminates all loose parts and changing of index plates.

1122-1 Multi-Spacer: overall length, 13-1/4″; width, 11″; height, less chuck, 4-7/8″. Approx. net weight, 80 lbs.

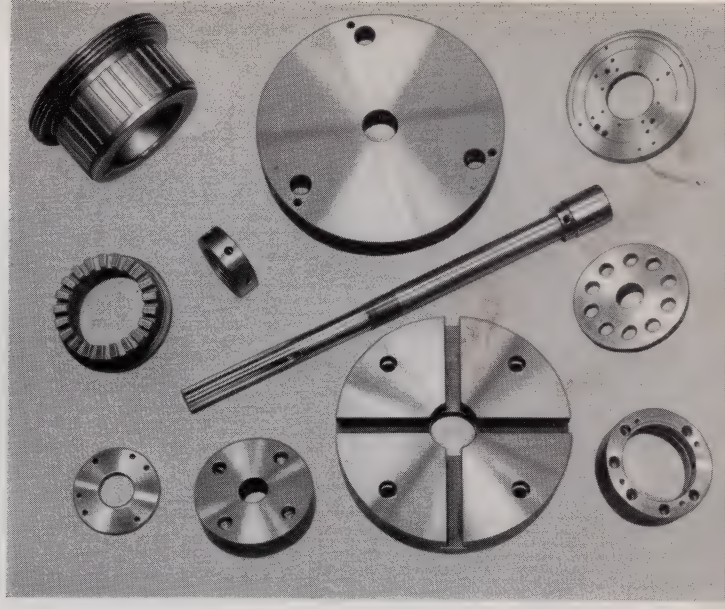
1123-1 8″ THREE-JAW UNIVERSAL CHUCK

This is a high-speed tool room type self-centering chuck with 6″ capacity; two-piece 3-step jaws with reversible tops are actuated by a rack gear and geared pinion screws. A suitable chuck wrench, adapter plate, and screws for attaching chuck are included. Body height of chuck, 1-11/16″; jaw height, 2″. Approx. net weight, 30 lbs.

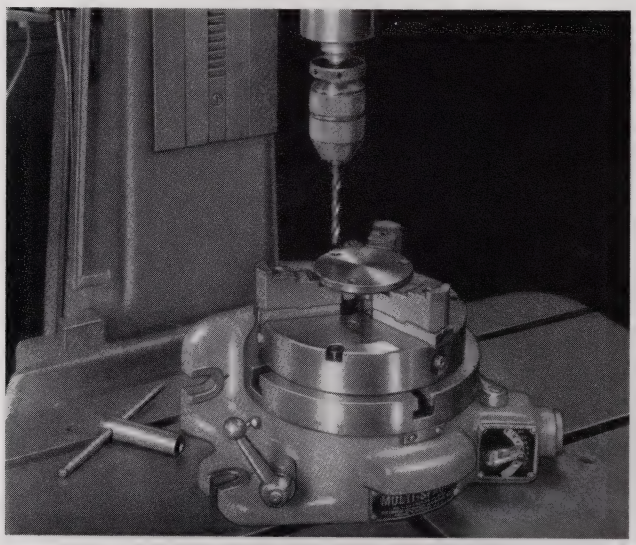
. . . . WITH BUILT-IN

SELECTOR

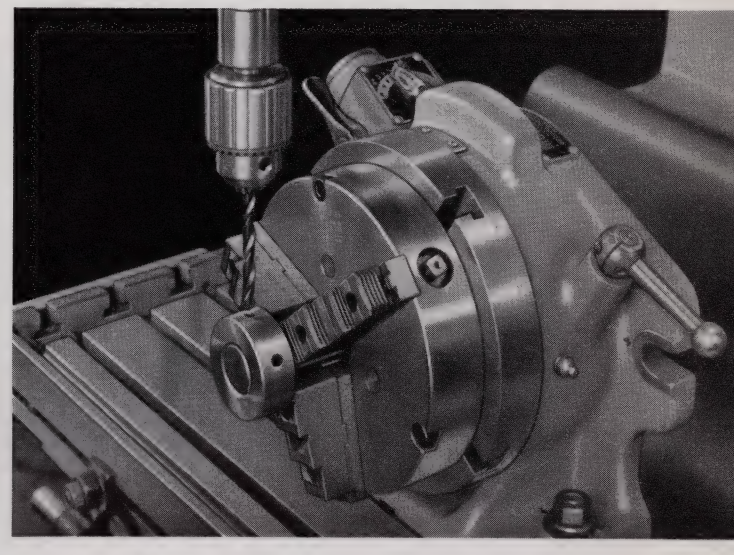
The Gorton Multi-Spacer is ideal for operations like those illustrated at right in which the wide versatility of this valuable tool is indicated. These examples show numerous applications of drilling, milling, slotting, boring to close radial tolerances. Similar work, without a precision indexing fixture, would require considerably more time — hence would increase costs. Illustrations below show typical set-ups.



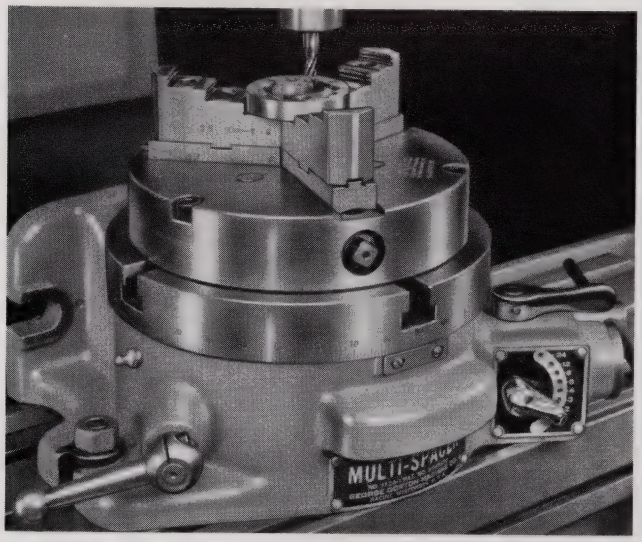
Types of work performed with the Gorton Multi-Spacer.



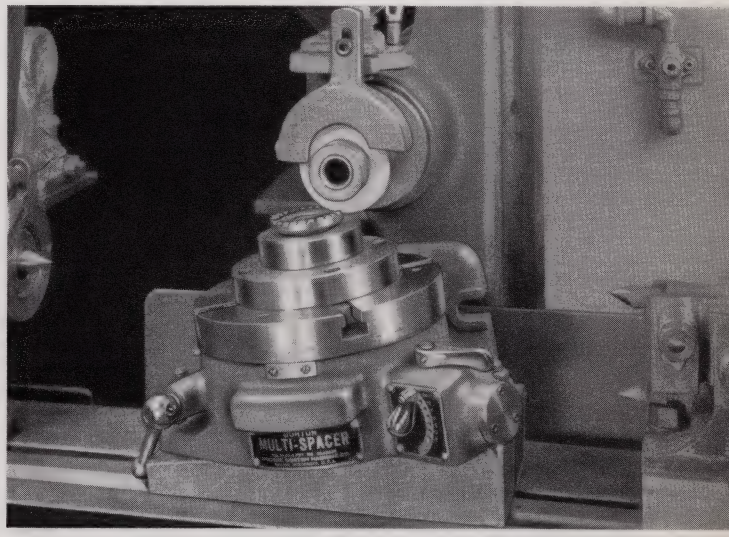
Multi-Spacer being used to accurately space holes on a flange.



In vertical position — accurately spacing holes at right angle to axis.

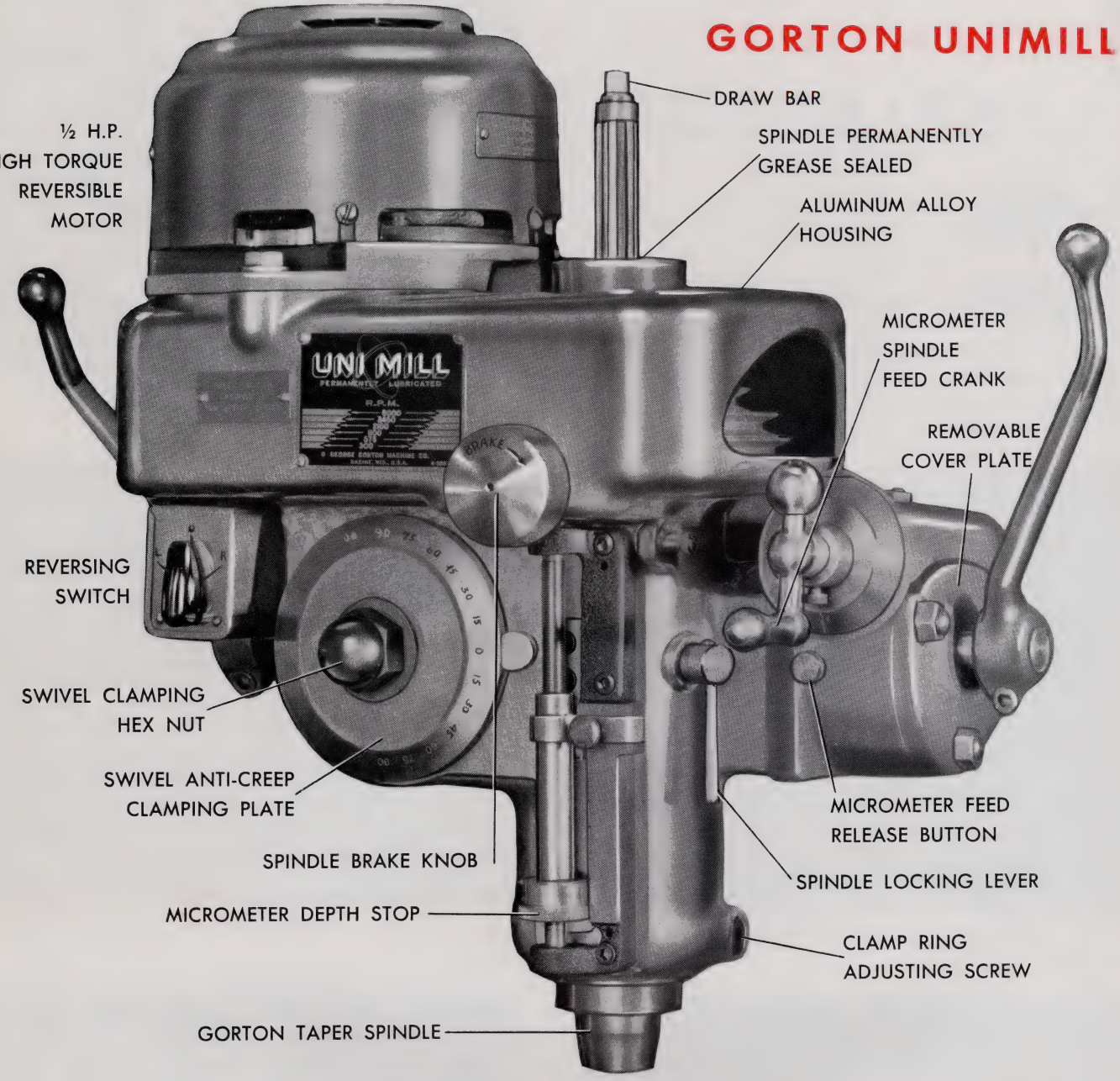


Spacing of keyways, slots and holes can be located quickly and accurately.



Precision grinding of clutch teeth held to close radial tolerances.

GORTON UNIMILL



SPINDLE SPEEDS UP TO 10,000 R.P.M.

Here is a lightweight, precision Universal Head which gives you quick, easy angular settings and provides spindle speeds to 10,000 R.P.M., designed for overarm mounting on any milling machine.

Features: For increased economy and convenience of operation are features such as — double-purpose positive spindle brake for rapidly stopping spindle and clamping it while changing cutters — spindle quill lock clamps spindle at desired position for setting-up and milling operations — screw-type spindle depth stop graduated in thousandths for rapid, positive, and accurate setting of cutter depth — simple, trouble-free quick action belt positioning and tension adjustment — quarter turn of clamp nut releases swivel joints for adjustment — joints have large oversize face-clamping surfaces and husky 7/8″ diameter clamping studs — head is graduated 45° left, 90° right (swivels 360° parallel to table) and 45° front and back at right angle to table. All these features add up to more rigidity — greater accuracy — simplicity of operation — versatility.

USES

The Gorton Unimill Universal Head is designed and built to provide all-around superiority in light milling, drilling, and profiling as well as for general employment in tool rooms and machine shops. With the high spindle speeds to 10,000 R.P.M., many grinding and finishing jobs using carbide burrs are possible.

UNIVERSAL MILLING HEAD

FOR DUPLICATING

The Unimill is easily adapted for manually controlled die and mold duplication. Unimill Tracer Head Assembly is quickly installed by removing the cover plate on the micrometer spindle feed box. Contact factory for more details and price.

IMPORTANT

Spindle and quill are completely hardened and ground to precision tolerances. The four spindle bearings are classified as "selected" super-precision. Such precision construction is required of any spindle turning up to 10,000 R.P.M. Spindle retraction spring brings spindle back to up position automatically. A hardened spindle guide ring at spindle nose assures indefinite accuracy. Reversing type motor and all pulleys are dynamically balanced. All mounting adapters whether standard or special are rugged castings with oversize clamping surfaces.

SPINDLE

Spindle is permanently grease-sealed. Lubricant will not leak out even with head set to extreme angles. Six spindle speeds — 300, 525, 925, 1625, 2850, 5000 R.P.M. standard. Speeds to 10,000 R.P.M. available at extra cost. Standard spindle takes Gorton taper collets to 1/2" shank diameter. Other tapers at extra cost. Single V-belt drive, 1/2 h.p. high torque, reversible motor (except 110 volt) including reversing switch. Spindle feed 3 inches.

ELECTRICS

Price applies to 110, 220, 440, or 550 volt, 1, 2, or 3 phase, 50 or 60 cycle A. C., only. Other electrical specifications must be submitted to factory for approval and pricing.

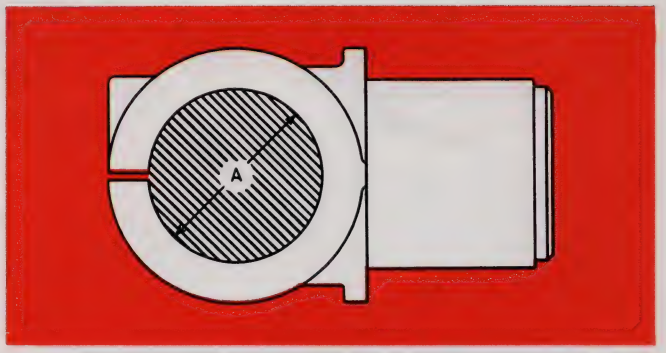
SPECIFICATIONS

1109-1 UNIMILL, with six spindle speeds 300-5000 R.P.M., complete with motor, switch, *overarm adapter (specify style and size of overarm according to drawings at right), drawbolt, belt. Approximate net weight 145 lbs. (Shipping weight depends on style and size of adapter required.)

1109-4, same as above except with spindle speeds of 600 to 10,000 R.P.M.

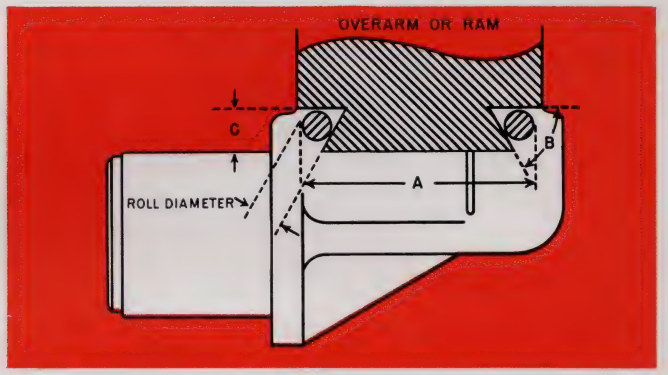
* Adapters fitting round overarms either 3-1/2", 4-1/4", 5" dia., or Gorton 2-28, 3-34 or 3-48 rams, are standard. See Price List.

WHEN ORDERING, BE SURE TO PROVIDE THE FOLLOWING INFORMATION



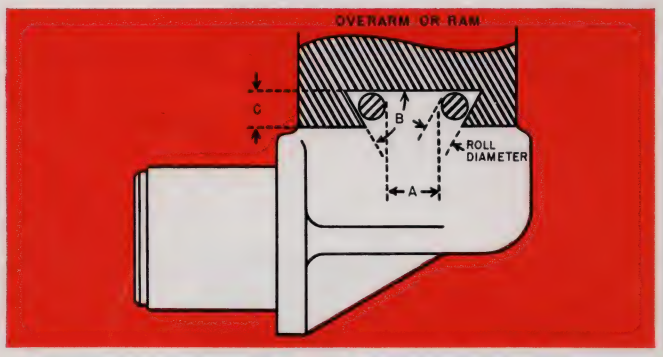
FOR ROUND OVERARMS

Measure exactly the outside diameter of the overarm (A) to which the Unimill will be attached. Use micrometer; reading must be in inches and thousandths.



FOR MALE DOVETAIL OVERARMS

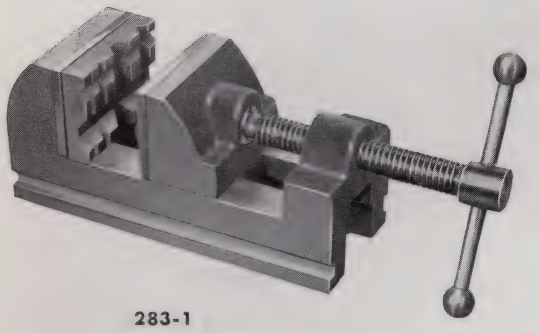
First, by using rollers, measure dimension (A) — inches and thousandths. (Specify exact diameter of rollers used.) Give angle (B) of the dovetail in degrees and minutes. Give depth (C) of dovetail in inches and thousandths.



FOR FEMALE DOVETAIL OVERARMS

Use rollers as shown — measure dimension (A) — inches and thousandths. (Specify exact diameter of rollers used.) Give angle (B) of the dovetail in degrees and minutes. Give depth (C) of dovetail in inches and thousandths.

GORTON MACHINE VISES . . . . . .

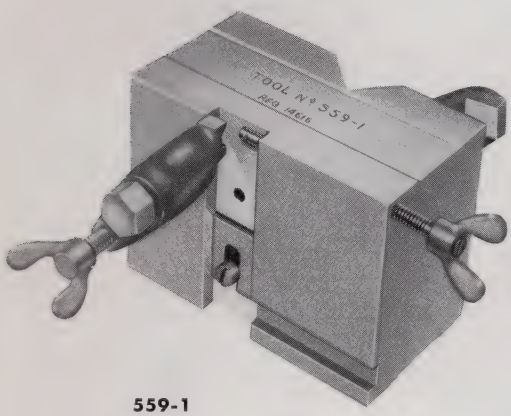


283-1

FOR SMALL MILLING MACHINES, DUPLICATORS AND PANTOGRAPHS

PLAIN MACHINE VISE 283-1

283-1. For all Milling and Pantograph Machines. Has slotted sides as shown for clamping to machine table. Maximum opening of jaws 3-1/8″; width 2-3/4″; depth 1-7/8″. Overall height 3-1/8″. Length of base 7-1/4″. Strongly made with hardened jaws and T-slot nuts and studs. Net weight 10 lbs., boxed 14 lbs.

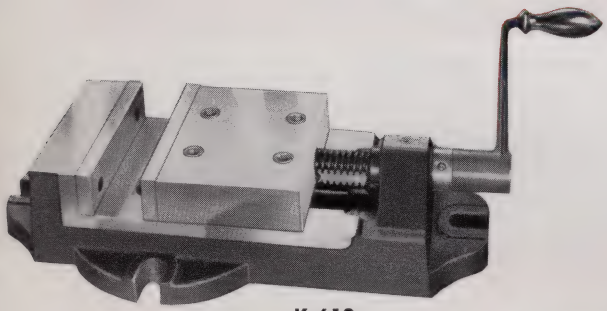


559-1

PRECISION STAMP AND TYPE VISE 559-1

559-1. For Pantograph Machines. Holds rectangular stamps or type any size from 1/32″ to 1″ and in any length up to 4″. Opposite side of the vise-block has a "V" for holding rounds up to 1-1/2″ diameter. Clamp dog on this side may be used for holding larger sized rectangular stamps. Adjustable stop locates stamp for height. Construction of clamp dog permits swinging away from slot for cleaning with brush. Wing nut at side holds stamp or type blank squarely against slot when tightening clamp dog. Made of one solid piece of steel, hardened. Slots have two accurately ground faces . . . bottom relieved and ground. Sides milled to receive straps for clamping to machine table. Held to .001″ limits for accurate work. 5-1/4″ long x 4″ high x 2-3/4″ wide. Weight 16 lbs., boxed 21 lbs.

FOR GENERAL USE ON ALL MILLING MACHINES

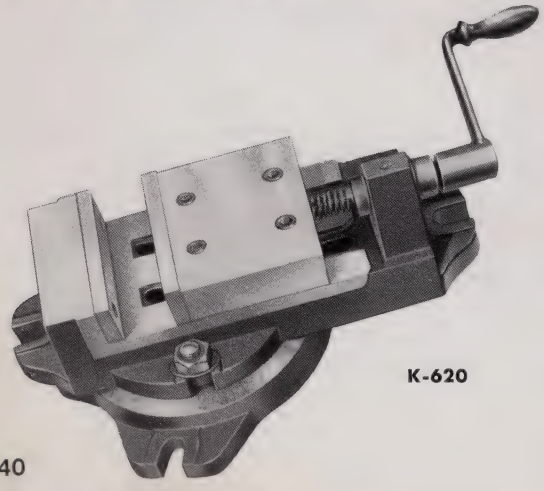


K-619

FLANGED MACHINE VISES

K-619 Flanged Vise for all GORTON Millers and Duplicators as well as for all makes of milling machines, also large size Pantograph Machines. Jaws 5-5/16″ wide, 1-7/16″ deep. Maximum opening 3″ — total height 3-3/8″. Work-holding surfaces are faced with removable hardened and ground steel plates. Complete with handle. Weight boxed 50 lbs. Order from table on opposite page.

K-621 Flanged Vise, same as above, except larger. Jaws 7-1/4″ wide, 1-3/4″ deep. Maximum opening 4-1/4″ — total height 3-3/4″. Weight boxed 80 lbs. Order from table on opposite page.



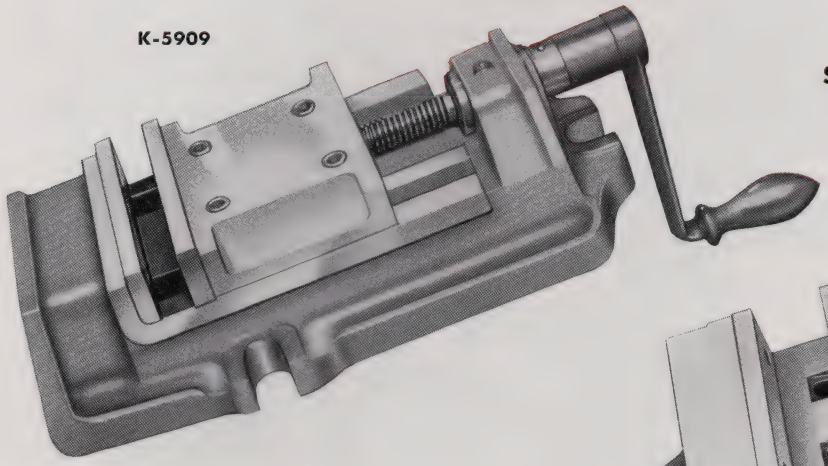
K-620

FLANGED MACHINE SWIVEL VISES

K-620 Flanged Swivel Vise for all Gorton Millers and Duplicators as well as for all makes of milling machines, also large size Pantograph Machines. Jaws 5-5/16″ wide, 1-7/16″ deep. Maximum opening 3″ — total height 5″. Work holding surfaces are faced with removable hardened and ground steel plates. Complete with handle. Weight boxed 62 lbs. Order from table on opposite page.

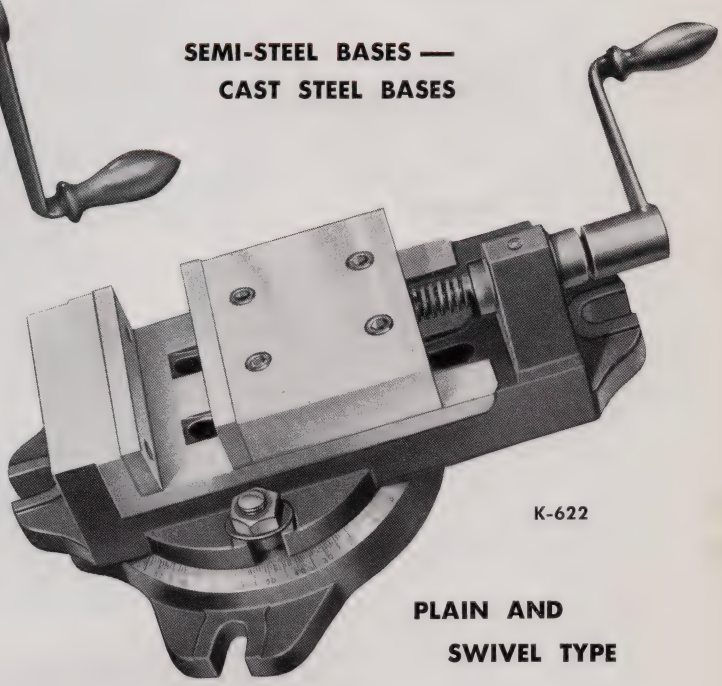
K-622 Flanged Swivel Vise, same as above, except larger. Jaws 7-1/4″ wide, 1-3/4″ deep. Maximum opening 4-1/4″ — total height 5-1/2″. Weight boxed 120 lbs. Order from table on opposite page.

DESIGNED FOR LONGER LIFE



K-5909

SEMI-STEEL BASES —
CAST STEEL BASES



K-622

PLAIN AND SWIVEL TYPE

WITH OR WITHOUT COOLANT TROUGHS

All vises listed in the table below can be used on Gorton Super-Speed, belt-driven vertical mills, duplicators, the No. 2 and 3 size geared-head mills and on milling machines of all other makes. They are ruggedly designed throughout.

Tops of movable jaws are ground parallel to bases so that they can be used as indicating bases for setting cutters and truing work. These vises will withstand heavy strains. Work-holding surfaces are faced with hardened and ground steel plates. Heavy thrusts are taken by a substantial collar which is an integral part of the adjusting screw.

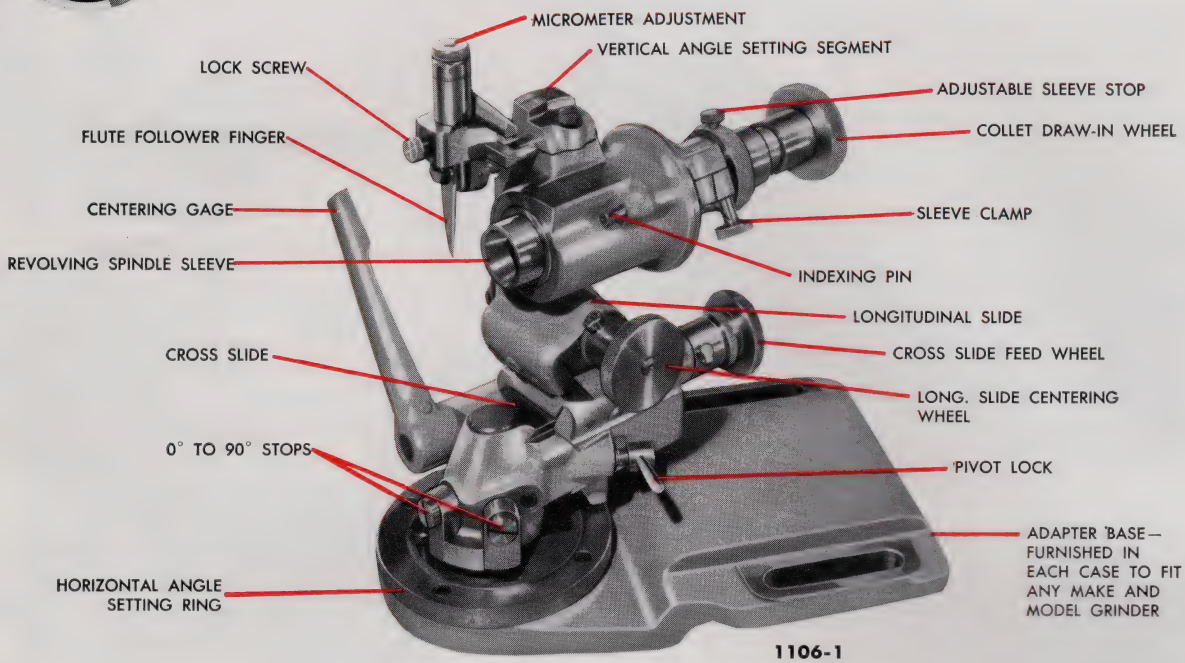
Four slots and keys are provided for attaching each vise (except 283-1 and 559-1) to the machine table, either parallel or at right angle to the table. With swivel base, work can be milled at any angle in the horizontal plane.

Plain and swivel vises in the 7″ size are designed with coolant troughs integral with the main castings. This feature provides a means for coolant run-off and return to machine table. This size vise is available with a semi-steel body as well as a cast steel body where work requires extreme clamping pressure. See table below.

ORDER BY CATALOG NUMBER

Catalog Number	Type	Jaw Opening	Jaw Width	Jaw Depth	Total Height	Total Length	Base	Coolant Trough	Ship. Weight Approx.
K-619	Plain	3″	5-5/16″	1-7/16″	3-3/8″	15-11/16″	Semi-Steel	No	50 lbs.
K-620	Swivel	3″	5-5/16″	1-7/16″	5″	15-11/16″	"	No	62 lbs.
K-621	Plain	4-1/4″	7-1/4″	1-3/4″	3-3/4″	19-1/8″	"	No	80 lbs.
K-622	Swivel	4-1/4″	7-1/4″	1-3/4″	5-1/2″	19-1/8″	"	No	120 lbs.
K-5909	Plain	5″	7-1/4″	1-13/16″	4″	18-5/8″	"	Yes	88 lbs.
K-5910	Swivel	5″	7-1/4″	1-13/16″	5-3/4″	18-5/8″	"	Yes	132 lbs.
K-5911	Plain	5″	7-1/4″	1-13/16″	4″	18-5/8″	Cast Steel	Yes	95 lbs.
K-5912	Swivel	5″	7-1/4″	1-13/16″	5-3/4″	18-5/8″	"	Yes	136 lbs.
K-5745	Plain	6″	8-5/16″	1-15/16″	4-1/8″	22-7/8″	"	No	125 lbs.
K-5744	Swivel	6″	8-5/16″	1-15/16″	5-3/4″	22-7/8″	"	No	155 lbs.

GORTON DOUBLE-DUTY TOOLGRIND



1106-1

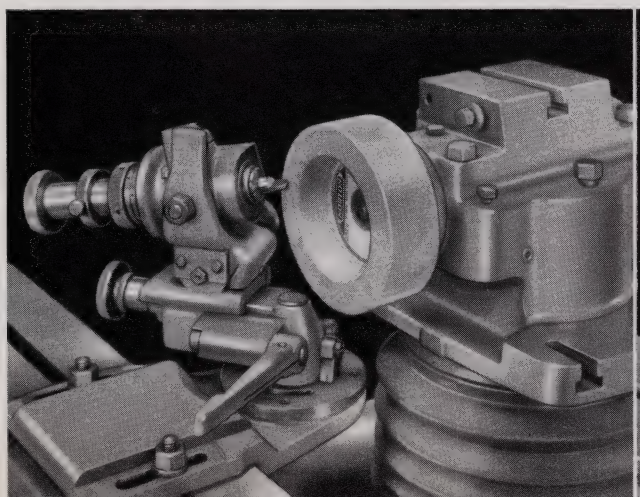
FITS ANY TOOL OR CUTTER GRINDER

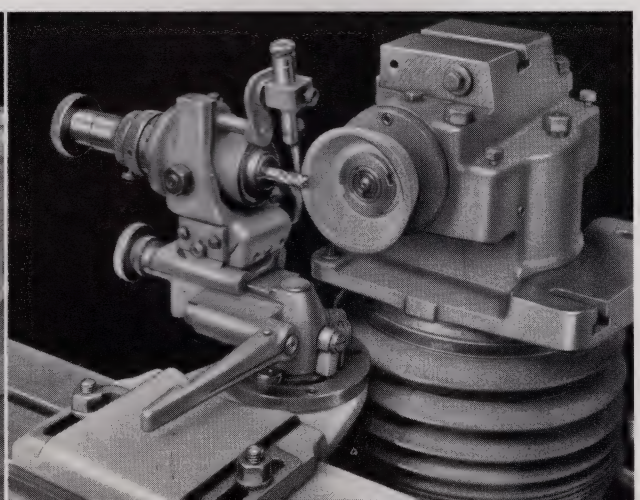
Here is an attachment which permits your present tool grinder to perform "double duty." By mounting this Gorton Double-Duty Toolgrind on any grinder, you can grind an endless variety of end mills, die sinking cutters, and engraving cutters whether single or multiple flute. This includes square, conical, or ball nose, either straight or tapered cutters and straight or spiral flutes — any angle, corner radius, or diameter with any degree of clearance.

This incorporates the popular Gorton 717-1 completely universal tool head with compound cross slides and micrometer dials graduated in thousandths; adjustable tool rest with micrometer dial for multiflute grinding. Base is graduated 360° — index dial with positive plunger with provisions for 1, 2, 3, 4, or 6 flutes — dust sealed antifriction bearing spindle and collet sleeve accurately ground to insure minimum run-out — adjustable stop dogs — pivot center locating arm — accessible hand wheels — simple and positive adjustments for wear.

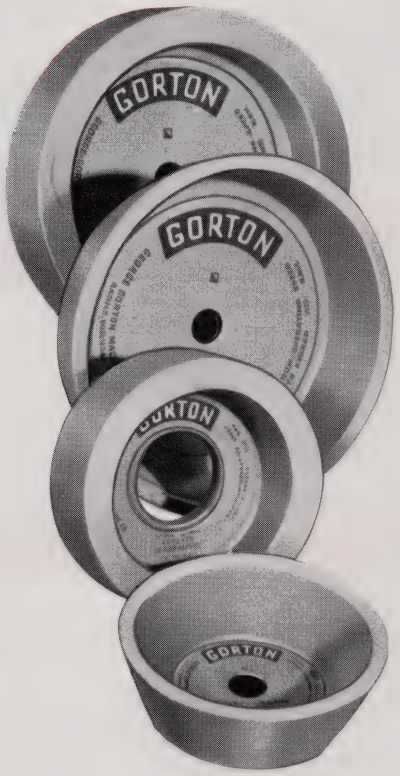
Spindle takes 4 N.S. collets having 5/8" dia., round hole and 1/2" square hole capacity as described on page 13. Sleeves to accommodate diameters to and including 1" dia. are available, made to order. Write factory for prices.

1106-1 Gorton Double-Duty Toolgrind, complete with base to fit your grinder table, less collets and sleeves — approx. shipping weight, 60 lbs. When ordering, specify make and model of your grinder.





GRINDING WHEELS *for* GORTON CUTTER GRINDERS



Three types of grinding wheels are available for various Gorton cutter grinder models, depending on the material to be ground. Our selections are based on results obtained in our own cutter grinding department over a period of years.

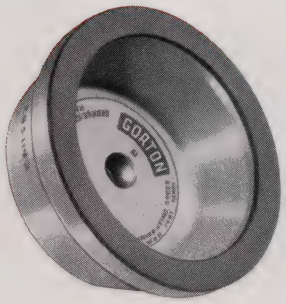
1. Alundum wheels for M-1, H.S.S. in two grit grades — 38-60 M6BE, medium grain and hardness for general grinding.

2. Alundum 38-80 M6BE, having the same hardness, but with finer grain for small and delicate cutter points where little stock removal and fine finish are desirable.

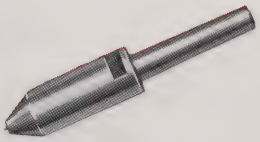
3. RAA60L7V grade which has a sharp grit and a bond capable of handling tough cobalt type H.S.S. These wheels will cut fast and produce a good finish where others will load, causing excessive heat and slow grinding action.

Diamond wheels, resinoid-bonded, with special heat dissipating aluminum backs are ideal for fast grinds and finer finishes on tungsten carbide cutters. Tools lapped on these wheels have improved cutting edges resulting in savings through longer cutter life and increased production. For best results, a good quality oil should be applied to the wheel face.

All wheels listed are stocked for immediate shipment. Wheels with special hole sizes can be furnished. Be sure to specify on order. If there is any doubt as to the model or style of your Gorton grinder, specify serial number on order.



DIAMOND WHEEL



7566

GRINDING WHEELS FOR SPECIFIC MODELS

For Gorton Models	Cat. No.	Grade	Cup Type	Wheel O.D.	Hole Size
365-6, 375-3 with Plain Heads	K-609	38-60	Straight	4"	7/16"
	K-6276	RAA60L7V	Straight	4"	7/16"
	K-608	38-80	Straight	4"	7/16"
375-2 with 717-1 Univ. Head	K-614	38-60	Flaring	4"	7/16"
	K-6289	RAA60L7V	Flaring	4"	7/16"
	K-613	38-80	Flaring	4"	7/16"
265-4 and 265-5	K-610	38-60	Straight	4"	1-1/2"
	K-607	38-80	Straight	4"	1-1/2"
375-3	K-4295	38-60	Straight	6"	7/16"
	K-6290	RAA60L7V	Straight	6"	7/16"
	K-4294	38-80	Straight	6"	7/16"
	K-4297	38-60	Flaring	6"	7/16"
	K-6291	RAA60L7V	Flaring	6"	7/16"
	K-4296	38-80	Flaring	6"	7/16"

For Gorton Models	Cat. No.	Grade	Cup Type	Wheel O.D.	Hole Size	Grinder Model
375-4, 265-6 and G-2 with Tapered Wheel Adapters	K-6132	38-60	Straight	4"	7/8"	G-2, 265-6
	K-6133	38-80	Straight	4"	7/8"	G-2, 265-6
	K-6134	RAA60L7V	Straight	4"	7/8"	G-2, 265-6
	K-6292	RAA60L7V	Flaring	4"	7/8"	G-2, 265-6
	K-6135	38-60	Straight	6"	7/8"	375-4
	K-6136	38-80	Straight	6"	7/8"	375-4
	K-6137	38-60	Flaring	6"	7/8"	375-4
	K-6138	38-80	Flaring	6"	7/8"	375-4
	K-6139		Straight	6"	7/8"	375-4
	K-6140		Flaring	6"	7/8"	375-4

DIAMOND WHEELS

Wheel Type	Cat. No.	Wheel Dia.	Grit	Concentration	Diamond Depth	Hole Size	Grinder Model
Straight Cup	K-617	3"	100	25	1/8"	1-1/2"	265-4, 265-5
	K-616	3"	320	25	1/8"	1-1/2"	265-4, 265-5
	K-618	3"	100	25	1/8"	7/16"	375-3
	K-615	3"	320	25	1/8"	7/16"	375-3
	K-6141	3"	100	25	1/8"	7/8"	375-4, G-2
	K-6142	3"	320	25	1/8"	7/8"	375-4, G-2
Flaring Cup	K-4227	3-1/2"	240	100	1/16"	7/16"	375-3
	K-4228*	3-3/4"	100	100	1/16"	7/16"	375-3
	K-6143	3-1/2"	240	100	1/16"	7/8"	375-4, G-2
	K-6144*	3-3/4"	100	100	1/16"	7/8"	375-4, G-2

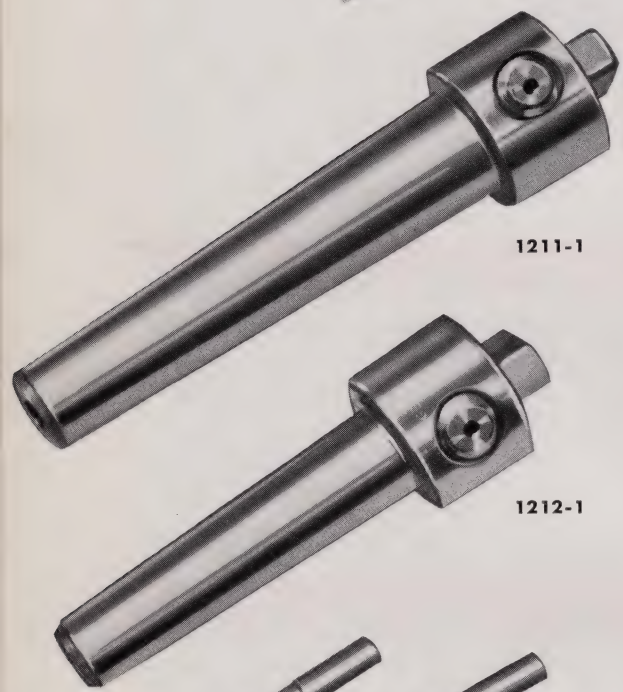
* DIAMOND GRIT ON WHEEL PERIPHERY
1264-1 ADAPTER FOR 7/8" BORE GRINDING WHEELS

WHEEL TRUING DIAMOND

7566, for use with all Gorton and other makes of cutter grinders. Has standard Gorton taper shank and 3/8" straight shank for use with collets.

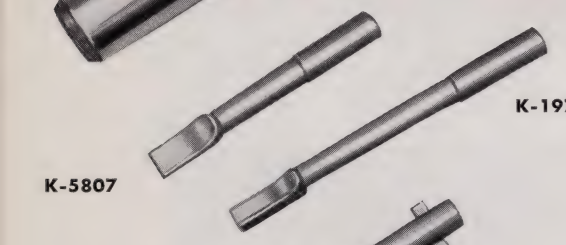
PRECISION JIG BORING BARS and HEADS

K-3769



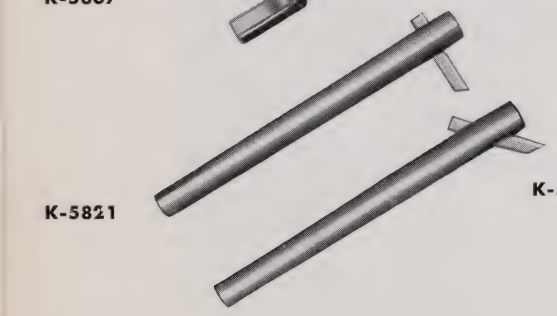
1211-1

1212-1



K-1978

K-5807



K-5823

K-5821

FOR TOOL ROOM AND PRODUCTION OPERATIONS

These boring bars are particularly suited to Gorton equipment, as well as jig borers with the same spindle tapers. Each bar has rapid adjustment of the cutting tools, both in and out by micrometer screw, graduated in thousandths. A positive wedge locks the cutting tool. Each bar has a wide adjustment range. The cutting tools are supported by a rugged, heat-treated bar. All bars are furnished with H.S.S. tool bits. Carbide tool bits are available. See listing below.

BORING BARS

Cat. No.	Shank	Cutting Diameter	Bar Dia.	Extension Beyond Shank	Bit Dia.
K-3769 K-3770	9 B&S 10 B&S	11/16″ to 7/8″	5/8″	4-1/2″	1/4″
K-3771 K-3772	9 B&S 10 B&S	7/8″ to 1-1/8″	13/16″	4-1/2″	5/16″
K-3773 K-3774	9 B&S 10 B&S	1-1/8″ to 1-1/2″	1″	4-1/2″	3/8″
K-3775 K-3776	9 B&S 10 B&S	1-1/2″ to 2″	1-3/8″	4-1/2″	7/16″

TOOL BITS ONLY FOR BORING BARS

H.S.S. Cat. No.	Dia.	Carbide Cat. No.	Dia.
K-1932	1/4″	K-5689	1/4″
K-1933	5/16″	K-5690	5/16″
K-1934	3/8″	K-5691	3/8″
K-1935	7/16″	K-5692	7/16″

MICROMETER BORING HEADS — 2 SIZES

No. 6 Head — for holes 1/4″ to 1″ dia., has a compact body 1-3/4″ dia. by 1-1/4″ long, with a 1/2″ long projecting tool holder. Head offsets 1/4″ by means of micrometer screw, graduated in thousandths; .050″ to a complete turn. Hardened holder has 3/8″ hole for boring tools.

No. 25 Head — this head has a two-way tool holder for boring small and large holes. 1/2″ bar or tool shank capacity. Body is 2-1/8″ dia. by 1-1/4″ long, max. micrometer offset 1/2″.

Each head comes complete with shank selected and wrench. Order by catalog number.

NO. 6 BORING HEAD

Cat. No.	Shank	Tool Capacity	Max. Off-Set
1211-1	Gorton Taper	1/8″ to 3/8″	1/4″
K-1941	9 B&S	1/8″ to 3/8″	1/4″
K-1942	10 B&S	1/8″ to 3/8″	1/4″

For other shank requirements, write factory.

NO. 25 TWO-WAY HEAD

Cat. No.	Shank	Tool Capacity	Max. Off-Set
1212-1	Gorton Taper	1/8″ to 1/2″	1/2″
K-5805	9 B&S	1/8″ to 1/2″	1/2″
K-5806	10 B&S	1/8″ to 1/2″	1/2″

For other shank requirements, write factory.

MIDGET BORING TOOLS

3/8″ Dia. Shanks			1/2″ Dia. Shanks		
Cat. No.	Min. Bore	Length	Cat. No.	Min. Bore	Length
K-5807	3/16″	2″	K-5812	3/8″	2-1/2″
K-5808	1/4″	2-1/4″	K-5813	7/16″	3″
K-5809	9/32″	2-1/2″	K-5814	7/16″	3-1/2″
K-5810	5/16″	2-1/2″	K-5815	1/2″	4″
K-5811	3/8″	2-3/4″	K-5816	1/2″	4-1/2″

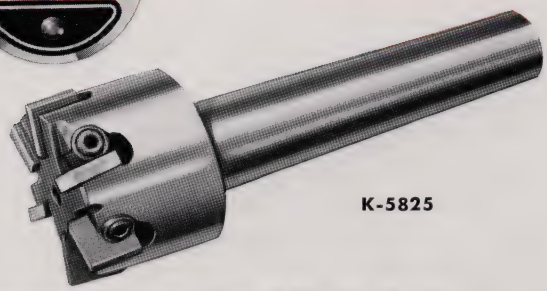
SPOON BORING TOOLS

3/8″ Dia. Shanks		1/2″ Dia. Shanks	
Cat. No.	Size	Cat. No.	Size
K-1978	3/8″ x 3″ long	K-5819	1/2″ x 3-1/2″ long
K-1946	3/8″ x 4″ long	K-5820	1/2″ x 4-1/2″ long

BORING BARS

Single End 90°				Single End 45°			
Cat. No.	Dia.	Length	Tool Size	Cat. No.	Dia.	Length	Tool Size
K-5821	3/8″	3″	3/16″ Rd.	K-5823	3/8″	3″	5/32″ Rd.
K-5822	1/2″	4″	3/16″ Sq.	K-5824	1/2″	4″	3/16″ Rd.

GORTON FACE MILLS AND SUPPLIES



K-5825

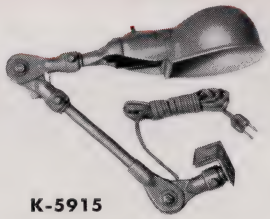
8 CUTTING EDGES ON EACH BLADE

Here is a cutter that can increase the usage of your belt-driven vertical machines beyond just using end mills. This design takes advantage of the higher spindle speeds to obtain an exceptional amount of stock removal. Along with this, excellent surface finish is possible when used with a machine having rigidity. Gorton machines lend themselves to this tool perfectly.

Each blade is a separate piece ground to close limits, permitting eight cutting edges to be used without resharpening. Blades are located in accurate slots and positively locked in place.

These cutters are available in either 2″ dia., four station, or 2-1/2″ dia., six station with No. 9 or No. 10 B&S taper shanks. Solid carbide blades are 3/16″ by 3/4″ square. No. 9 B&S shanks tapped 1/2″—13—N.C. No. 10 B&S, tapped 5/8″—11—N.C.

Cat. No.	Dia.	No. of Blades	Shank	Shipping Weight
K-5825	2″	Four	9 B&S	3 lbs.
K-5826	2″	Four	10 B&S	3-1/2 lbs.
K-5827	2-1/2″	Six	9 B&S	4 lbs.
K-5828	2-1/2″	Six	10 B&S	4-1/2 lbs.



K-5915

MACHINE LAMPS

For maximum work visibility, here is a lamp giving a unique combination of bending joints and rotating joints enabling quick positioning of the reflector to the area desired. Once positioned it will stay put and not vibrate or fall away. A right angle base provides vertical or horizontal mounting. Lamps have heavy-duty industrial socket and chipproof switch.

Cat. No.	Reflector Shape	Overall Length	For Use With	Shipping Weight
K-5915	Pear	26″	Mastermil, 0-16A, 8½-D, 9-J, 375-3, G-2	3 lbs.
K-5916	Pear	36″	All Gorton Panto-graphs	3 lbs.
K-5917	Bell	35″	2-28, 3-34, 3-48 Horiz. and Vertical	4 lbs.

K-5829 KOOLSHADE

Shield gives protection against accidental burns. Made of strong lightweight nylon. Quickly and easily adapted to pear-shaped reflectors. Just snap on.

K-5831

K-5831 MAGNA-GRIP "TINY TITAN" LAMP

An ideal lamp for use with pantographs. Mounts on the cutterhead permitting the lighting to move with the cutter. A magnetic base with 65 lbs. pull secures the lamp to any curved or flat surface. The small shield makes it possible to get close to the work and is rayon-flocked to prevent burns.

Each lamp comes attractively boxed complete with 6 feet of cord and two bulbs, 25 and 40 watt.

GEORGE GORTON MACHINE CO.
RACINE, WIS. U.S.A.

ENGRAVERS' CRAYON FILLER

For color filling engravings. Much easier to use than paste or lacquer but not as permanent. Colors are impregnated into a paraffin composition. Available colors as listed below.

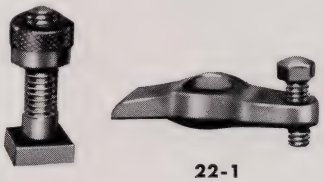
Cat. No.	Color	Cat. No.	Color
K-651	*Bronze	K-650	Green
K-648	*Silver	K-655	Yellow
K-654	Black	K-649	Red
K-653	White	K-652	Blue

*** Sold individually.**
Others sold in quantities of six only assorted or all one color.

K-658

K-658 ENGRAVERS' PASTE FILLER

For filling instrument panels, etc., is chalk white and will not fade. Can be rubbed in by hand and hardens in a few hours. If consistency becomes too dry it can be softened by a few drops of water. Will not flake or chip out. White paste filler comes in 1/4-lb. screw top jar.

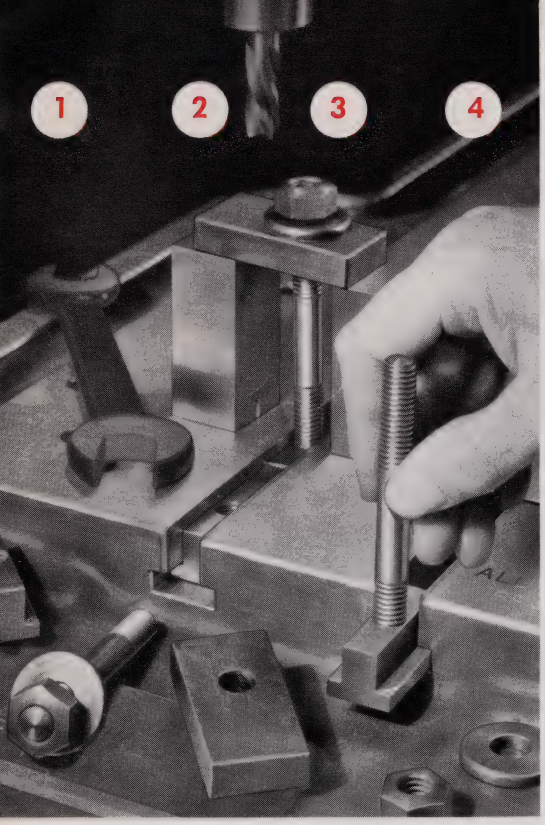


22-1

22-1 TABLE DOGS

Ideal for securing work or copy on pantographs or duplicators. Fits any workholder, indexing table, or copyholder having 3/8″ T-slots. Dog and set screw case hardened. Comes complete as shown.

22-2, same as above but for 7/16″ T-slots.



GORTON SAFE-T-SLOT NUT SETS

1. *Faster set-ups* because nuts need not be removed from T-slots . . . studs are changed only for work of different heights.
2. *Safety for accurately finished jobs and die-block surfaces,* with smooth, carefully cornered hold-down straps furnished.
3. *Saves you money* because it is unnecessary to purchase assorted length T-slot bolts; you use inexpensive studs only — length adjustable.
4. *Safety for costly precision machines* because long surface on nuts makes it impossible to score or gouge inside of T-slots or permanently distort table tops which frequently happens when old style bolts are pulled too tight.

Tongues — Rust-resisting finish . . . carefully gauged to size . . . studs are chrome molybdenum with finished, case-hardened straps, washers and hex nuts.

COMPLETE SETS OF T-SLOT NUTS, STUDS, STRAPS

Each Set consists of 4 T-slot Nuts and 4 Studs (in sizes and lengths listed below), 16 in all; also 4 case-hardened, smooth-finished Straps, 4 Hex Nuts and Washers —complete with Stand.

Set No.	T-Slot Size	Stud Length	Shipping Weight
689-1	3/8″	2″; 3″; 4″; 5″	6 lbs.
1269-1	7/16″	3″; 4″; 5″; 6″	9 lbs.
688-1	1/2″	3″; 4″; 5″; 6″	10 lbs.
796-1	5/8″	3″; 4″; 5″; 6″	12 lbs.
1154-1	11/16″	4″; 5″; 6″; 7″	15 lbs.

For Ordering Individual Pieces, Minimum Order $3.00

T-SLOT NUTS

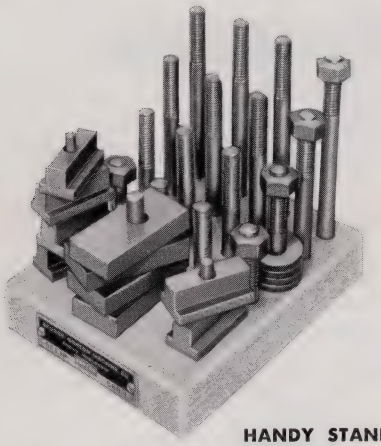
Cat. No.	A	B	C	D	E
12597	23/64″ for 3/8″ Slots	1-1/2″	9/16″	7/32″	5/8″
K-6181	27/64″ for 7/16″ Slots	1-1/4″	1/2″	7/32″	3/4″
11897	31/64″ for 1/2″ Slots	1-3/4″	3/4″	15/64″	7/8″
12617	39/64″ for 5/8″ Slots	2″	1″	3/8″	1-1/8″
17169	43/64″ for 11/16″ Slots	2″	1″	7/16″	1-1/8″

STRAPS

Cat. No.	F	G	H	Hole Size
12602	2-1/4″	1″	3/8″	5/16″ Stud
11902	2-1/2″	1-1/4″	1/2″	3/8″ or 7/16″ Stud
12622	2-1/2″	1-1/4″	1/2″	1/2″ Stud
17174	3″	1-1/2″	5/8″	5/8″ Stud

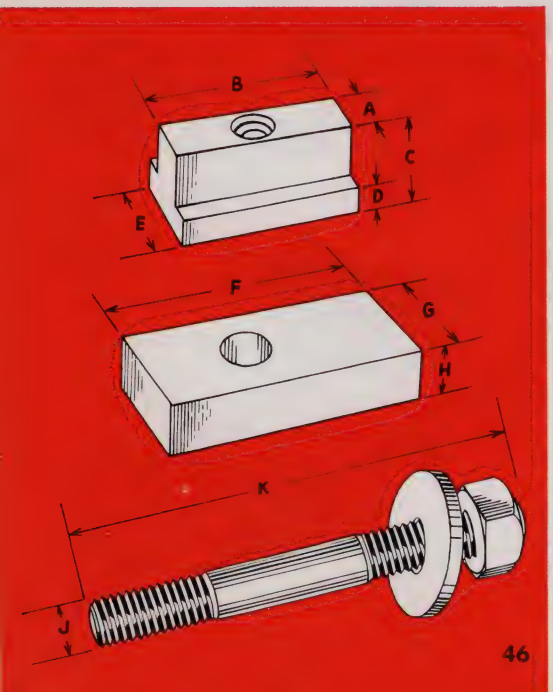
STUDS

Cat. No.	J	K	Cat. No.	J	K
12598	5/16″	2″	11900	7/16″	5″
12599		3″	11901		6″
12600		4″	12618	1/2″	3″
12601		5″	12619		4″
K-6182	3/8″	3″	12620		5″
K-6183		4″	12621		6″
K-6184		5″	17170	5/8″	4″
K-6185		6″	17171		5″
11898	7/16″	3″	17172		6″
11899		4″	17173		7″



HANDY STAND

Block and Pins furnished with each Set to hold parts upright, properly in place, like this —



MILLING MACHINE ARBORS AND FITTINGS

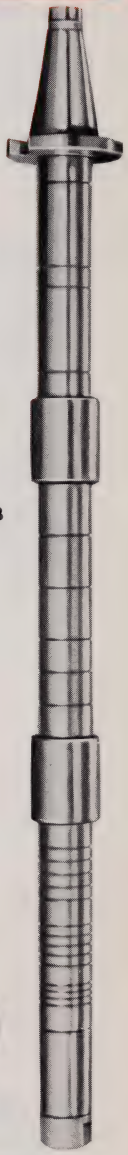
Styles A and B arbors for National Standard Spindles, No. 50 Taper with 3-1/2″ taper per foot, 2-3/4″ diameter at large end of spindle. Arbors are equipped with right-hand threads. Left-hand threads furnished on request. Write factory for prices. Style A arbors, when supported on pilot end only, are intended for small diameter cutters and light work. We can supply at any time standard arbors with diameters in millimeters for use with metric cutters. For prices on metric arbors, write factory.

ALL ARBORS ON THIS PAGE ARE FOR NATIONAL STANDARD SPINDLES

STYLE A AND B ARBORS NO. 50 TAPER

Catalog Number	Standard Part Nomenclature	Style	Dia.	Shoulder Length to Nut	Bearing Sleeve Furnished	Dia. of Bearing	Keyway Width	Keyway Depth
K-4798	50— 7/8 A 10	A	7/8″	10″	None	.718″	1/8″	1/16″
K-4799	50— 7/8 A 12	A	7/8″	12″	None	.718″	1/8″	1/16″
K-4800	50—1 A 12	A	1″	12″	None	.718″	1/4″	5/32″
K-4801	50—1 A 18-4	A	1″	18″	One	2.125″	1/4″	5/32″
K-4802	50—1 B 18-4	B	1″	18″	One	2.125″	1/4″	5/32″
K-4803	50—1 B 18-5	B	1″	18″	One	2.750″	1/4″	5/32″
K-4804	50—1-1/4 A 12	A	1-1/4″	12″	None	.718″	5/16″	3/16″
K-4805	50—1-1/4 A 18-4	A	1-1/4″	18″	One	2.125″	5/16″	3/16″
K-4806	50—1 B 24-4	B	1″	24″	Two	2.125″	1/4″	5/32″
K-4807	50—1 B 24-5	B	1″	24″	Two	2.750″	1/4″	5/32″
K-4808	50—1-1/4 B 18-4	B	1-1/4″	18″	One	2.125″	5/16″	3/16″
K-4809	50—1-1/4 B 18-5	B	1-1/4″	18″	One	2.750″	5/16″	3/16″
K-4810	50—1-1/4 B 24-4	B	1-1/4″	24″	Two	2.125″	5/16″	3/16″
K-4811	50—1-1/4 B 24-5	B	1-1/4″	24″	Two	2.750″	5/16″	3/16″
K-4965	50—1-1/4 B 30-4	B	1-1/4″	30″	Two	2.125″	5/16″	3/16″
K-4812	50—1-1/4 B 30-5	B	1-1/4″	30″	Two	2.750″	5/16″	3/16″
K-4813	50—1-1/2 B 18-4	B	1-1/2″	18″	One	2.125″	3/8″	7/32″
K-4814	50—1-1/2 B 18-5	B	1-1/2″	18″	One	2.750″	3/8″	7/32″
K-4815	50—1-1/2 B 24-4	B	1-1/2″	24″	Two	2.125″	3/8″	7/32″
K-4816	50—1-1/2 B 24-5	B	1-1/2″	24″	Two	2.750″	3/8″	7/32″
K-4966	50—1-1/2 B 30-4	B	1-1/2″	30″	Two	2.125″	3/8″	7/32″
K-4817	50—1-1/2 B 30-5	B	1-1/2″	30″	Two	2.750″	3/8″	7/32″
K-4967	50—1-1/2 B 36-4	B	1-1/2″	36″	Two	2.125″	3/8″	7/32″
K-4818	50—1-1/2 B 36-5	B	1-1/2″	36″	Two	2.750″	3/8″	7/32″
K-4819	50—2 B 24-5	B	2″	24″	Two	2.750″	1/2″	5/16″
K-4820	50—2 B 30-5	B	2″	30″	Two	2.750″	1/2″	5/16″
K-4821	50—2 B 36-5	B	2″	36″	Two	2.750″	1/2″	5/16″

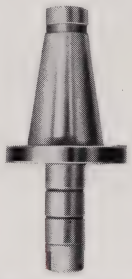
STYLE A



STYLE B

STYLE B SHORT ARBORS

Catalog Number	Standard Part Nomenclature	Dia.	Length	Taper No.	Keyway Width	Keyway Depth
K-5009	50— 7/8 B 3-1/2	7/8″	3-1/2″	50	1/8″	1/16″
K-5010	50—1 B 3-1/2	1″	3-1/2″	50	1/4″	5/32″
K-5011	50—1-1/4 B 3-1/2	1-1/4″	3-1/2″	50	5/16″	3/16″
K-5012	40— 3/4 B 3-1/2	3/4″	3-1/2″	40	1/8″	1/16″
K-5013	40— 7/8 B 3-1/2	7/8″	3-1/2″	40	1/8″	1/16″
K-5014	40—1 B 3-1/2	1″	3-1/2″	40	1/4″	5/32″
K-5015	40—1-1/4 B 3-1/2	1-1/4″	3-1/2″	40	5/16″	3/16″

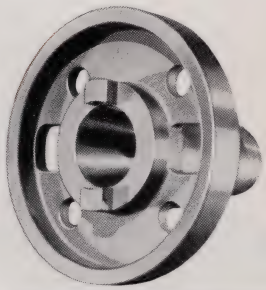


STYLE B SHORT

SPINDLE CHANGE ADAPTER

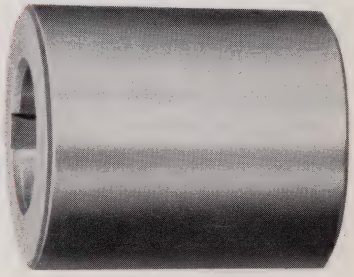
To utilize No. 40 Taper Shank Arbors and Adapters in milling machines equipped with No. 50 National Standard Taper.

Catalog Number	Outside Taper No.	Inside Taper No.
K-5016	50	40



ARBOR BEARINGS

Catalog Number	Bearing No.	Outside Dia.	Hole Dia.	Keyway Width	Keyway Depth
K-5017	4	2.125″	.875″	1/8″	1/16″
K-5018	4	2.125″	1.000″	1/4″	3/32″
K-5019	4	2.125″	1.250″	5/16″	1/8″
K-5020	4	2.125″	1.500″	3/8″	5/32″
K-5021	5	2.750″	.875″	1/8″	1/16″
K-5022	5	2.750″	1.000″	1/4″	3/32″
K-5023	5	2.750″	1.250″	5/16″	1/8″
K-5024	5	2.750″	1.500″	3/8″	5/32″
K-5025	5	2.750″	2.000″	1/2″	3/16″



MILLING MACHINE ARBORS AND FITTINGS

GORTON ARBOR COLLARS

Catalog Number	Collar Length	Dia. of Hole	Keyway	
			Width	Depth
K-4829	1/4″	.875″	1/8″	1/16″
K-4830	3/8″	.875″	1/8″	1/16″
K-4831	1/2″	.875″	1/8″	1/16″
K-4832	3/4″	.875″	1/8″	1/16″
K-4833	1″	.875″	1/8″	1/16″
K-4834	1-1/4″	.875″	1/8″	1/16″
K-4835	1-1/2″	.875″	1/8″	1/16″
K-4836	2″	.875″	1/8″	1/16″
K-4837	3″	.875″	1/8″	1/16″
K-4838	1/4″	1.000″	1/4″	3/32″
K-4839	3/8″	1.000″	1/4″	3/32″
K-4840	1/2″	1.000″	1/4″	3/32″
K-4841	3/4″	1.000″	1/4″	3/32″
K-4842	1″	1.000″	1/4″	3/32″
K-4843	1-1/4″	1.000″	1/4″	3/32″
K-4844	1-1/2″	1.000″	1/4″	3/32″
K-4845	2″	1.000″	1/4″	3/32″
K-4846	3″	1.000″	1/4″	3/32″
K-4847	1/4″	1.250″	5/16″	1/8″
K-4848	3/8″	1.250″	5/16″	1/8″
K-4849	1/2″	1.250″	5/16″	1/8″
K-4850	3/4″	1.250″	5/16″	1/8″
K-4851	1″	1.250″	5/16″	1/8″
K-4852	1-1/4″	1.250″	5/16″	1/8″
K-4853	1-1/2″	1.250″	5/16″	1/8″
K-4854	2″	1.250″	5/16″	1/8″
K-4855	3″	1.250″	5/16″	1/8″
K-4856	1/4″	1.500″	3/8″	5/32″
K-4857	3/8″	1.500″	3/8″	5/32″
K-4858	1/2″	1.500″	3/8″	5/32″
K-4859	3/4″	1.500″	3/8″	5/32″
K-4860	1″	1.500″	3/8″	5/32″
K-4861	1-1/4″	1.500″	3/8″	5/32″
K-4862	1-1/2″	1.500″	3/8″	5/32″
K-4863	2″	1.500″	3/8″	5/32″
K-4864	3″	1.500″	3/8″	5/32″
K-4865	1/4″	2.000″	1/2″	3/16″
K-4866	3/8″	2.000″	1/2″	3/16″
K-4867	1/2″	2.000″	1/2″	3/16″
K-4868	3/4″	2.000″	1/2″	3/16″
K-4869	1″	2.000″	1/2″	3/16″
K-4870	1-1/4″	2.000″	1/2″	3/16″
K-4871	1-1/2″	2.000″	1/2″	3/16″
K-4872	2″	2.000″	1/2″	3/16″
K-4873	3″	2.000″	1/2″	3/16″

CENTERING PLUGS

Centering Plugs for locating large diameter cutters which bolt directly to spindle end. Furnished in both No. 40 and No. 50 National Standard Taper.

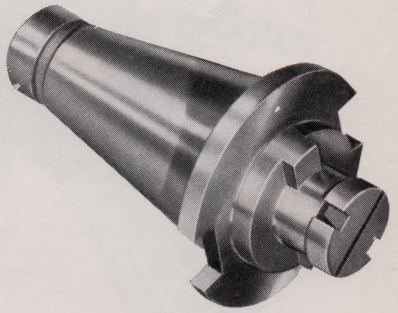
Specify Plug Diameter and Length

Catalog Number	Taper No.
K-4828	50 NS
K-4973	40 NS

MILLING MACHINE ARBORS AND FITTINGS

GORTON STYLE C ARBORS

Style C Arbors for shell end and face milling cutters. All Style C Arbors are equipped with hardened screws, wrench furnished with arbors 1″ diameter or larger. Smaller arbors are equipped with slotted head screws.

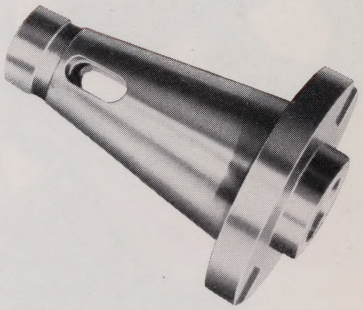


No. 40 and No. 50 National Standard Taper

Catalog Number	Standard Part Nomenclature	Arbor Size		Distance Back of Cutter to Spindle Face	Dia. Range of End Mills	Drive Collar Key Size	
		Dia.	Length			Width	Height
K-4822	50— 1/2 C 5/8X	1/2″	9/16″	5/8″	1-1/4″ to 1-1/2″	1/4″	1/8″
K-4823	50— 3/4 C 5/8X	3/4″	11/16″	5/8″	1-3/4″ to 2″	5/16″	5/32″
K-4824	50—1 C 7/8X	1″	11/16″	7/8″	2-1/4″ to 2-3/4″	3/8″	3/16″
K-4825	50—1-1/4 C 7/8X	1-1/4″	11/16″	7/8″	3″ to 3-1/2″	1/2″	1/4″
K-4826	50—1-1/2 C 7/8X	1-1/2″	15/16″	7/8″	4″ to 5″	5/8″	5/16″
K-4827	50—2 C 7/8X	2″	15/16″	7/8″	5-1/2″ to 7″	3/4″	3/8″
K-4968	40— 1/2 C 5/8X	1/2″	9/16″	5/8″	1-1/4″ to 1-1/2″	1/4″	1/8″
K-4969	40— 3/4 C 5/8X	3/4″	11/16″	5/8″	1-1/4″ to 1-1/2″	5/16″	5/32″
K-4970	40—1 C 7/8X	1″	11/16″	7/8″	2-1/4″ to 2-3/4″	3/8″	3/16″
K-4971	40—1-1/4 C 7/8X	1-1/4″	11/16″	7/8″	3″ to 3-1/2″	1/2″	1/4″
K-4972	40—1-1/2 C 7/8X	1-1/2″	15/16″	7/8″	4″ to 5″	5/8″	5/16″

COLLET ADAPTERS *(Reducing Sleeves)*

Used with B&S or Morse taper collets, end mills, drills, etc. All tang drive collet adapters are furnished with drift keys.



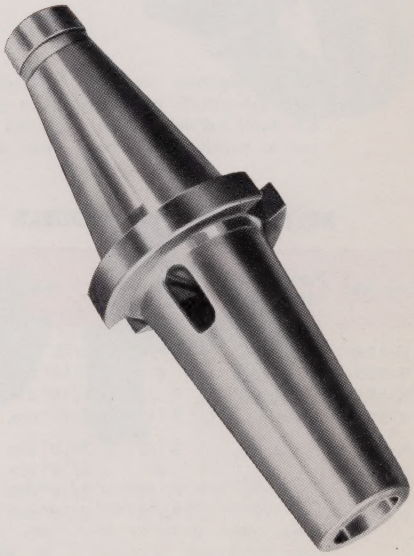
For Machines with National Standard Spindle

Catalog Number	Standard Part Nomenclature	Outside Taper No.	Inside Taper No.	Length Beyond End of Spindle	Collet Drive
K-5026	42M	40	2 Morse	1-11/16″	Tang
K-5027	43M	40	3 Morse	1-11/16″	Tang
K-5028	44M	40	4 Morse	2-9/16″	Tang
K-5029	47B	40	7 B & S	1-11/16″	Tang
K-5030	49B	40	9 B & S	2-9/16″	Tang
K-5031	52M	50	2 Morse	1-3/4″	Tang
K-5032	53M	50	3 Morse	1-3/4″	Tang
K-5033	54M	50	4 Morse	1-1/8″	Tang
K-5034	55M	50	5 Morse	3-3/8″	Tang
K-5035	57B	50	7 B & S	1-5/8″	Tang
K-5036	59B	50	9 B & S	1-1/8″	Tang
†K-5037	D50—10B	50	10 B & S	3/4″	Draw Rod
†K-5038	D50—11B	50	11 B & S	1-1/4″	Draw Rod
†K-5039	D50—12B	50	12 B & S	2-3/8″	Draw Rod

† Back End Open. Draw Rod engages Collet direct.

EXTENDED COLLET ADAPTERS

For machines with National Standard Spindles. Extended collet adapters permit cutting tool changes without removing adapter from the machine spindle. All tang drive collet adapters are furnished with drift keys.



Catalog Number	Standard Part Nomenclature	Outside Taper No.	Inside Taper No.	Length Beyond End of Spindle	Collet Drive
K-5040	42M4	40	2 Morse	4″	Tang
K-5041	43M4-1/4	40	3 Morse	4-1/4″	Tang
K-5042	45B3	40	5 B & S	3″	Tang
K-5043	47B4	40	7 B & S	4″	Tang
K-5044	53M5	50	3 Morse	5″	Tang
K-5045	54M6	50	4 Morse	6″	Tang
K-5046	57B4-3/4	50	7 B & S	4-3/4″	Tang
K-5047	59B5-3/4	50	9 B & S	5-3/4″	Tang

BELTS FOR ALL GORTON MACHINES

ENDLESS ROUND FABRIC BELTS FOR PANTOGRAPHS

FOR 2-DIMENSIONAL MACHINES — *Always give Serial No.*

Cat. No.	Motor Drive Belt Size	Cat. No.	Cutter Spindle Belt Size	For These Machines
K-592	1/4″x84″	K-581	3/16″x52″	3A, 3-D, 3-G, 3-J, 3-F, 3-U
K-4298	V-Belt 1/4″x31″	K-5640	3/16″x54″	P1-2
K-602	*3/8″x79″	K-596 K-595	*5/16″x62″ 5/16″x56″	*3-X, *3-R 3-Z uses all three belts
				P2-2
K-604	3/8″x10′ 3″	K-598	5/16″x79″	3-S, P3-2 with Serial No. to 31131
K-5551	V-Belt 13/32″x52″	K-598	5/16″x79″	P3-2 from Serial No. 31131

FOR 3-DIMENSIONAL PANTOGRAPHS

Cat. No.	Motor Drive Belt Size	Cat. No.	Cutter Spindle Belt Size	For These Machines
K-592	1/4″x84″	K-5640	3/16″x54″	P1-3
K-603	3/8″x86″	K-597	5/16″x70″	3-L with Serial No. to 30000
K-5605 K-5378	3/8″x8′ 8″ 3/8″x9′ 3″	K-597	5/16″x70″	P2-3 with Serial No. to 33716
K-5605	3/8″x8′ 8″	K-597	5/16″x70″	P2-3 with Serial No. from 33716
K-6426	3/8″x9′ 7″			For P2-3 with Serial No. from 37838
K-5378	3/8″x9′ 3″			For P2-3 with Pulley giving 13,000 R.P.M.
		K-824	3/16″x108″	For P2-3 Enlarging Spindle

GORTON GRADUATING MACHINE BELT

Cat. No.	Belt Size	Machine
K-820	1/4″x56″	687-1 Graduating Machine

V-BELTS FOR GORTON CUTTER GRINDERS

Cat. No.	Belt Size	For Machine	Cat. No.	Belt Size	For Machine
K-569	1/4″x24.4″	265-4, 265-5, 265-6	K-4547	1/4″x33.5″	375-2
K-570	1/4″x26.6″	375-1	K-4298	1/4″x31″	375-3
K-5935	1/4″x24″	G-2			

V-BELTS FOR GORTON MILLS AND DUPLICATORS

Cat. No.	Belt Size	Machine	Cat. No.	Belt Size	Machine
K-572	1/2″x56″	8-D Vert.	K-2368	19/32″x41-1/4″	8½-D Univ.
K-689	1/2″x62″	0-16A Vert.	K-6374	17/32″x40″	Mastermil*
K-4586	13/32″x26″	0-16A Swivel, Univ. and Unimill	K-575	11/16″x80″	9-J Vert. with Serial No. to 12320
K-574	11/16″x70″	8½-D Vert.	K-576	15/16″x79″	9-J Vert.

*** K-5976 Power Down Feed Belt; K-6082 Timing Belt.**

GORTON GEARED-HEAD MILLING MACHINES

Cat. No.	Description	Machines
K-5157	One Set of 4 Matched V-Belts	All Gorton 2-28's, 3-34's, 3-48's

GORTON 16-B SWISS-TYPE AUTOMATIC SCREW MACHINE

Specify belts required; give Serial No. of Machine.

BELTS FOR OLD MODELS

Cat. No.	Pantograph Machines	Motor Pulley Dia.	Belt Size
K-584	1-A, 1-C, 1-G, 1-H, 1-G Matrix Machine	3-1/2″	3/16″ dia. x 9′-9″
K-585		6″	3/16″ dia. x 10′-0″
K-586		7-1/2″	3/16″ dia. x 10′-3″
K-587		9-1/2″	3/16″ dia. x 10′-6″
K-587	1-D, 1-J, 1-T	3-1/2″	3/16″ dia. x 10′-6″
K-588		6″	3/16″ dia. x 10′-9″
K-577		7-1/2″	3/16″ dia. x 11′-0″
K-589		9-1/2″	3/16″ dia. x 11′-3″

machines for:

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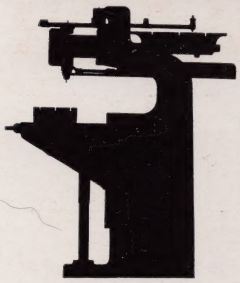
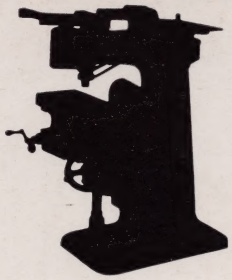
SEE MACHINE BULLETINS ON BACK COVER

STANDARD MACHINES

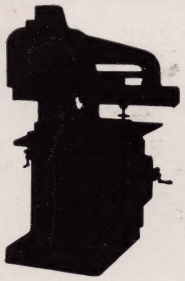


Improved Gorton P1-2 Pantograph, formerly the 3-U. For precision engraving, light milling operations.

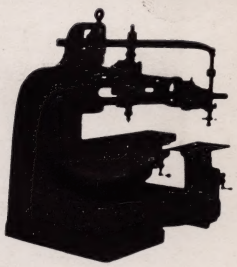


This Gorton 3-Z Pantograph has the performance features of the P1-2 but will do heavier cutting.

Gorton heavy-duty P3-2 Pantomill is easily modified for many automatic applications.



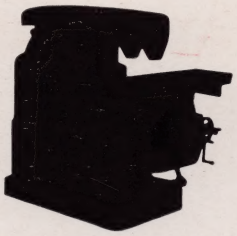
The new Gorton P1-3 three-dimensional pantograph features patented Ratiobar.



Gorton P2-3, largest capacity three-dimensional pantograph available.

Gorton Super-Speed Ram-Type Vertical Mills. Ten models from "O" size to No. 3.

Gorton Die and Mold Duplicators in several models are renowned for accuracy and finish they produce.



Gorton Horizontals with Fullwidth Knees bring new precision standards to the production line.

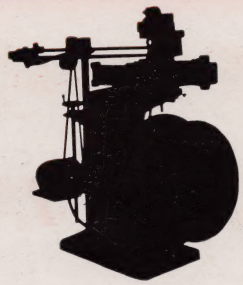
The Gorton 3-48 Vertical Mill offers high spindle speeds and extra capacity at a substantial saving.

Gorton 16-B Swiss-Type Automatic Screw Machine produces high-precision instrument parts.

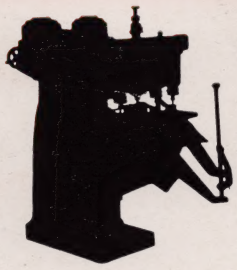
SPECIAL MACHINES

Specially designed six-spindle Gorton Pantograph with belt drive for multiple engraving from a single master.

Four electric spindles (48,000 R.P.M.) and indexing master — special pantograph for work on steel numbering wheels.

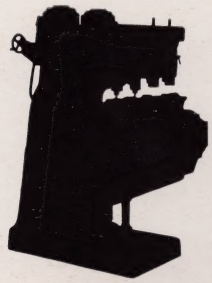


Special tooling on Gorton P3-2 Pantograph permits automatic profiling of eight irregular ports in large casting.



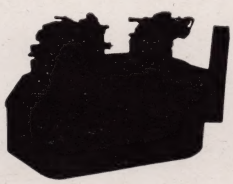
Specially designed Gorton Duplicator with four belt-driven spindles. 4 pieces are produced from one master.

Special purpose Gorton Multiple Electric-Arc Etcher. 8 finished parts are electrically etched at one time.



Special Gorton Rotary Duplicator with four spindles. Spindles operate in pairs permitting continuous loading, unloading.

Special combination machine—Gorton Horizontal with Receptor Ram and Super-Speed Vertical Head and Ram Assembly.

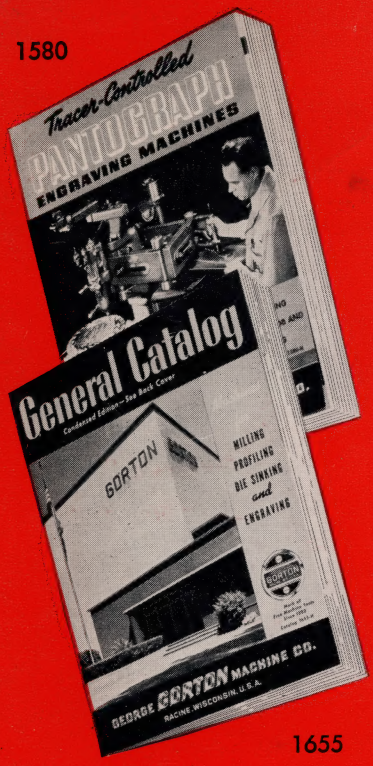


Special Gorton high-production Multiple Spindle Indexing Pantograph. Precision now comes to the production line.

As many as six pantograph assemblies can be mounted around a precision indexing table for multiple operations.

Special Gorton designed high-precision contour mill of swinging beam type produces exceptional accuracy and finish.

1580



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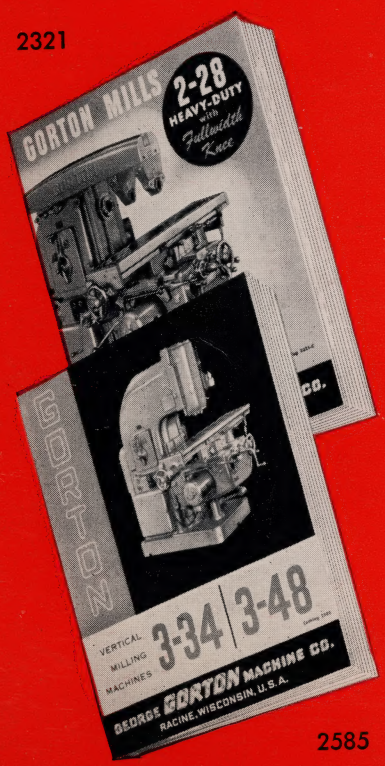

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